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Abstract

Creative thinking is an important life skill to ensure the quality of life. This study investigates whether Creativity Enhancement Programme (CrEP) can improve the creativity and the self-esteem and reduce anxiety and depression of adolescents with specific learning disability (SLD). This is an experimental study done by selecting children with SLD, after the screening which includes screening for SLD and IQ assessment, from state syllabus schools, which are situated in South Bangalore with similar socio-economic background. Four hypotheses were tested; 1) Creativity enhancement programme increases the creativity of adolescents with SLD. 2) Creativity enhancement programme enhances the self-esteem of adolescents with SLD. 3) Creativity enhancement programme reduces the anxiety of adolescents with SLD. 4) Creativity enhancement programme reduces depression of adolescents with SLD. These hypotheses are grounded on available literature. The intervention programme consisted of various creativity enhancement activities such as drawing, bridge construction, sand art, best out of waste, find a friend etc. Creativity Enhancement Programme improved non-verbal creativity: Elaboration and Self-esteem. Similarly, this intervention could reduce depression. But statistically significant change has not been observed in anxiety. These results give evidence for how creativity enhancement programme package is useful in helping adolescents with SLD to build their self-esteem.

Keywords: specific learning disability, creativity, self-esteem, anxiety, depression

Introduction

Adolescents with a Specific learning disability (SLD) experience negative emotions in the classroom and at home (Wiener, 2004; Mishna, 2003). The lack of reinforcements from parents, peer group, and teachers affect their self-esteem and coping skills. Later they recognize themselves as their disability in learning, would further deteriorate their self-image and confidence (Margalit & Al-yagon, 2002). They become more vulnerable to anxiety and depression compared to other children (Lackaye & Margalit 2006; Feurer & Andrews, 2009). Currently, children with the SLD have options to receive remedial training and to avail welfare measures to ease their academic pressures. But the minor subset of the children with SLD benefits out of these schemes, due to delayed identification and lack of availability of centres. In this context exploring child-centric interventions other than remedial training to enhance the well-being of adolescents with SLD is important. They need an alternative stimulating environment to cope with their stressful academic life and to find meaning in their life. Exploring and Enhancing their creativity through creativity enrichment Programmes would help them to nurture their creativity. Being creative would also help the children to cope with the demands of life and to solve problems (Kockar & Gençöz, 2004; Silvia & Kimberly, 2010). The creative activities would attract attention and rewards from their environment which would help children with SLD to construct their self-esteem.

The formal education system in India gives importance to academic achievement. Even media gives overemphasis on achieving ranks at various levels. Academic achievement has become synonymous with scoring high marks in every discipline. Students get less chance to explore their aptitude and nurture the skills. Market-driven education system makes changes in curriculum according to the needs of the industrial world. For example, students

get a feel that if they could not achieve a high score in Mathematics or in English, their life is not meaningful.

Disorders of Reading (Dyslexia), Disorders of writing (Dysgraphia) and Disorders of mathematical learning (Dyscalculia) (Nakra, 1996). A study from Rajasthan reported learning disability among 10% of students who were studying in class three and five (Choudhary, Jain, Chahar, & Singhal, 2012). Similarly, a study showed that 15.17% of school children of eight to 11 years had specific learning disabilities in Belgaum city of Karnataka (Mogasale, Patil, Patil, & Mogasale, 2012).

Self-esteem, Anxiety and Depression among Children with SLD

Children with SLD struggle to meet their academic requirements from the beginning of their education. Certainly, parents and teachers might assist them and/or try to motivate them in learning. Since the children with SLD demonstrate normal intelligence, it would be difficult for parents to recognize SLD in their children, even teachers might face difficulty in identifying SLD in children. Such children may not get professional remedial services when it is required. Delayed identification and intervention would affect the self-esteem of children with SLD. Prolonged exposure to stressful academic life due to SLD and strained relationship with parents and teachers also lead to emotional problems.

Most commonly children with SLD experience low self-esteem compared to their non-SLD peer group and high level of anxiety and depression (Lahane, Shah, Nagarale, & Kamath, 2013; Kohli, Malhotra, Mohanty, Khehra & Kaur, 2005)

Children with specific learning disability have been vulnerable to depression, anxiety, low self-esteem, behavioural disorders and suicidal behaviour (Pandy, 2012). Impulsivity and social skills deficits and higher rates of suicide are the other correlates of SLD (Bender, Rosenkrans, & Crane, 1999). Children with Reading Problems had the high

rate of suicide ideation and attempts which were also related to school dropout (Daniel, Walsh, Goldston, Arnold, Reboussin, &Wood, 2006; Kohli et al., 2005)

The self-esteem of children with the Specific Learning Disability is affected due to their poor academic performance (Klassen & Lynch, 2007). Compared to the nondisabled peer group the LD children have four times more mental health problems. (Peleg, 2009). A study showed that compared to the children without SLD the children with SLD were at risk for anxiety (22.3% vs 11.5%) and depression (32% vs 18%) (Maag & Reid, 2006; Gallegos, Langley, & Villegas, 2012). Panicker and Chelliah (2016) found that children with Specific Learning disability had severe stress (16.6%), severe anxiety (23.8%) and severe depression (14.2%). Resilience of children and adolescents with SLD was very low among 75% of them. Anxiety, shame and inadequacy were found among children who had difficulty in learning and also leading to behavioural problems (Johnson, 2005). In a study done in Indian setting children with learning disability showed more of internalizing problems such as depression (9.28%) and anxiety (19.25 %) (Singh et al., 2017). Clinical anxiety was found to be on the higher level among children with LD than children with normal population irrespective of age, gender and ADHD status (Thakkar et al., 2016).

Depression, anxiety, suicidal thoughts, high level of distress, poor mental health, frequent visit to mental health professionals were found more among people with LD than the people without LD (Wilson, Armstrong, Furrie, & Walcot, 2009).

Psychological distress is common among children with LD; anxiety is one of the prominent problems (Deb, Thomas, & Bright, 2001; Emerson, 2003). The higher rate of social anxiety showed among people with the LD than normal people (Melfsen, Walitza, & Warnke, 2006). When 6% of mainstream population experience depression, around 20% of SLD population experience depression. (Sikabafori & Anupama, 2012; Emamjohmeh, & Bahrami, 2015).

Reasons for Psychological Impact

Academic failure is the main factor that is leading to low self-esteem in children with learning disability compared to non-learning disability. Children with the SLD as they face failure even after putting efforts to reach their peer level will reduce their self-esteem (Zeleke, 2004). Children with SLD are likely to be bullied by peer group, which could lead to low self-esteem, and that can be internalized, might lead to depression. Children with the SLD also have social skill deficit (King & Daniel, 1996; Valas, 1999; Humphrey & Mullins, 2002).

The labelling of a child with the SLD is associated with not only academic factors but also the factors inherent in the disability itself, cognitive deficits that might interfere with the child's development of self-concept (Raviv & Stone, 1991). Learning disabilities are viewed differently as well as perceived negatively. Children face unfair treatment by teachers, parents, and peers. Sometimes teachers also are not ready to accept the problems of the child with the SLD, which leads to low self-esteem (Riddick, 1999; Gresham & Mac Millan, 1997).

Children with SLD are vulnerable to ADHD, depression, anxiety and suicide attempts. Co-occurrence of these disorders are common in such children. Such mental health problems further worsen their performance in learning. Almost 30% of the children with SLD suffer significant emotional and behavioural (Sahoo, Biswas, & Padhy, 2015)

The children with anxiety will develop the feeling of loneliness. Depression and anxiety, which are results of internalizing the difficulties (Thompson & Hinshaw, 1992). As the children with LD are being neglected in schools by teachers, peer groups and at home by parents, siblings, relatives, and neighbours, they start developing emotional problems. The child would develop negative emotion of loneliness and pessimism. They would not be able to express these problems at home or school. Suppressing the helplessness and hopelessness

would lead to depression and/or anxiety. Through an intervention Programme, a child could get chance to express such emotions through art, games and other creatives tasks. Hence this creativity enhancement programme is an innovative platform for children to improve their problem-solving skills.

The children need training in their skills which will increase their self-esteem due to achievement (Lloyd & Chandler, 1999). All children are skilled in one or the other area. Feedback plays a great role in the self-esteem of children with SLD. Negative feedback leads to low self -esteem. Positive feedback leads to high self-esteem. The children should be informed about their positives through feedback (Reid, 2011).

Behavioural inhibition and maladaptive cognition, which are present among children with SLD lead to anxiety (Al-Yagon & Mikulincer, 2004). Through the creativity enhancement programme, the child would get an opportunity to explore the talents which the children have not had in their life. The children would start experiencing the capacities. Their inhibition comes down subsequently. They shift their focus to more adaptive thoughts. Self-confidence and adaptive thinking help them to handle their anxiety.

Children with SLD have a poor social adjustment, also at risk for peer victimization and bullied by peer and siblings (Greenham, 1999). The children with SLD are frequently teased and have fewer friends, and due to the stigma associated with SLD they are bullied (Mishna, 2003; Martinez & Semrud-Clikerman, 2004). Children with SLD due to peer victimization can develop psychological issues like anxiety and adjustment difficulties. As a peer group rejects children with SLD, they internalize these problems leading to loneliness, when taken passively, lead to depression (Mishna, 2003; Weiner, 2004). Apprehensive temperament among few children with SLD (Margalit & Al-Yagon, 2002), and school frustration lead to low flexibility and adaptability and high risk for anxiety and depression (Teglasi, Cohn, & Meshbesher, 2004). Nurturing an environment in schools would boost

children's self-awareness and assertive skills. Creative and critical thinking will help such children to enhance their interpersonal skills. It would protect them from further victimization.

Cognitive aspects of children with SLD

Cognitive function of children with SLD has been studied, and studies have reported a variation in cognitive functioning. Children face difficulties in attention, memory, set shifting and inhibition (Meltzer, 2007; Wilcutt, Pennington, Olsen, Chhabildas, & Hulslander, 2005, as cited in Gupta & Venkatesan, 2014). These difficulties affect the learning abilities of children. The focussed training programme is required to address the special need of the children with SLD.

Remedial Training for the Children with SLD

Remedial training programmes, provided for children with SLD aim to mitigate the distress and to enhance the learning skills through intensive individualized psychological care. Various approaches such as IEP (Individualized Education Plan), PREP (PASS Reading Enhancement Programme) and COGENT (Cognitive Enhancement Programme) developed by JP Das to improve the reading fluency of children are some examples. The studies demonstrated that Cognitive behaviour therapy (CBT) could also show improvement in SLD children. Training programme for executive functions showed an improvement in working memory, attention and executive functions of children with learning disability (Gupta & Venkatesan, 2014). CBT helped children with anxiety, depression, low self-esteem, poor problem-solving skills, and inappropriate learning behaviour (Kroese, 1997). But these interventions do not address the specific opportunities to nurture the strengths of the children with SLD. And the focus was not on creativity and self-esteem among children with SLD.

Can Creativity be Nurtured?

There is an ongoing debate, can creativity be nurtured or not. Creativity can be nurtured through the structured Programme. Studies have explored this phenomenon (Antonietti, 2000; Prieto, López, Bermejo, Renzulli, & Castejón, 2002; Fleith, Renzulli, & Westberg, 2002; Komarik & Brutenicova, 2003; Saxon, Treffinger, Young, & Wittig, 2003; Zachopoulou, Trevlas, & Konstadinidou, 2006; Tettamanzi, Sarotti, & Frontino, 2009). The conducive environment is essential to recognize the creative potentials and to nurture further such talents. Studies have reported children with SLD also possess creativity (Kapoula, Ruiz, Spector & Vernet, 2016; Bigozzi, Tarchi, Pinto, & Donfrancesco, 2016). Behera and Pradhan (2007) found that children with SLD had creative potentialities similar to normal children and they were not inferior to normal students in creative activities.

Durham (2010) examined the role of arts instruction and arts-integrated teaching among children with moderate to severe learning disabilities showed that the improvement in knowledge and skills.

Cognitive aspects of creativity

Creative people had higher scores on focused attention, category fluency, design fluency (both free and fixed), visuo-spatial working memory (medium effect size), set shifting ability, response inhibition and verbal memory. An association was found between intelligence, mental speed, focused attention, category fluency, design fluency (both free & fixed), set shifting, response inhibition, verbal memory and all components of creativity (Sadana, Rajeswaran, Jain, Kumaran, Thennarasu, & Sundar, 2017). Enhancement of creativity through exposure to activities which would use the higher cognitive functions of the brain may help children with SLD to utilize their divergent thinking and problem-solving abilities.

Benefits of Creativity Enhancement Programme for Children with SLD

Creativity is an ability to find solutions to problems (Sternberg, Grigorenko, & Singer, 2004). There are two types of creative thinking such as; Divergent thinking, is the ability to generate unusual and appropriate solutions to problems and convergent thinking, is the ability to plan the logical responses. It is concerned with the particular result. Novel ideas and unusual ways of thinking would enhance the coping of children with SLD. Living in the less rewarding environment is a major emotional challenge for children with SLD. Being creative is an opportunity for such children to experience mastery over own life through some novel ideas. Such experiences might limit the emotional consequences among children with SLD. Studies also have reported the association between the self-esteem and creativity (Matherly & Goldmith, 2001; Rigby & Waite, 2006; Myers, Willise, & Villalba, 2011).

Self-esteem of a child has an association with creativity and creative tasks (Goldsmith & Matherly, 2001; Fleith, Renzulli, & Westberg, 2002). Adolescents expect rewards from their family and academic environment. Children with SLD get fewer rewards and encouragement from their immediate environment, due to their poor performance in examinations. In this context their chance to develop to psychological problems such as pervasive lack of interest, anger, anxiety, sadness, hopelessness, helplessness and worthlessness (Mugnaini, Lassi, Malfa, & Albertini, 2009; Maag & Ried, 2006; Körne, 2010). Creativity helps them to understand the learning process from a different perspective. It gives them an opportunity to sharpen their problems solving and decision-making skills. Every product of their creativity is a communication to the world that they are also going to be a productive person. Current social and economic transitions recognize the importance of creativity. In a nurturing environment, Adolescents with SLD and with sparks of creativity slowly explore and nurture their inborn skills (Melhem & Isa, 2013; Al-Zyoudi, 2007; Nogueria, 2006; Jaben, 1987). Expression of creativity leads to success and rewards. Thus,

every child needs a stimulating environment to establish their identity beyond the framework current curriculum and evaluation.

Theoretical Framework for Enhancement of Creativity

Two theoretical perspectives support the selection of Adolescent age for this intervention. According to Piaget's Cognitive developmental theory, the formal operational stage is the final stage, when abstract and more logical thinking evolves (11-15 years). Similarly, Erik Erikson's stages of psychosocial development stage; Identity versus Role Confusion, which is around the adolescent age, in this period of development child tries to establish an identity for self.

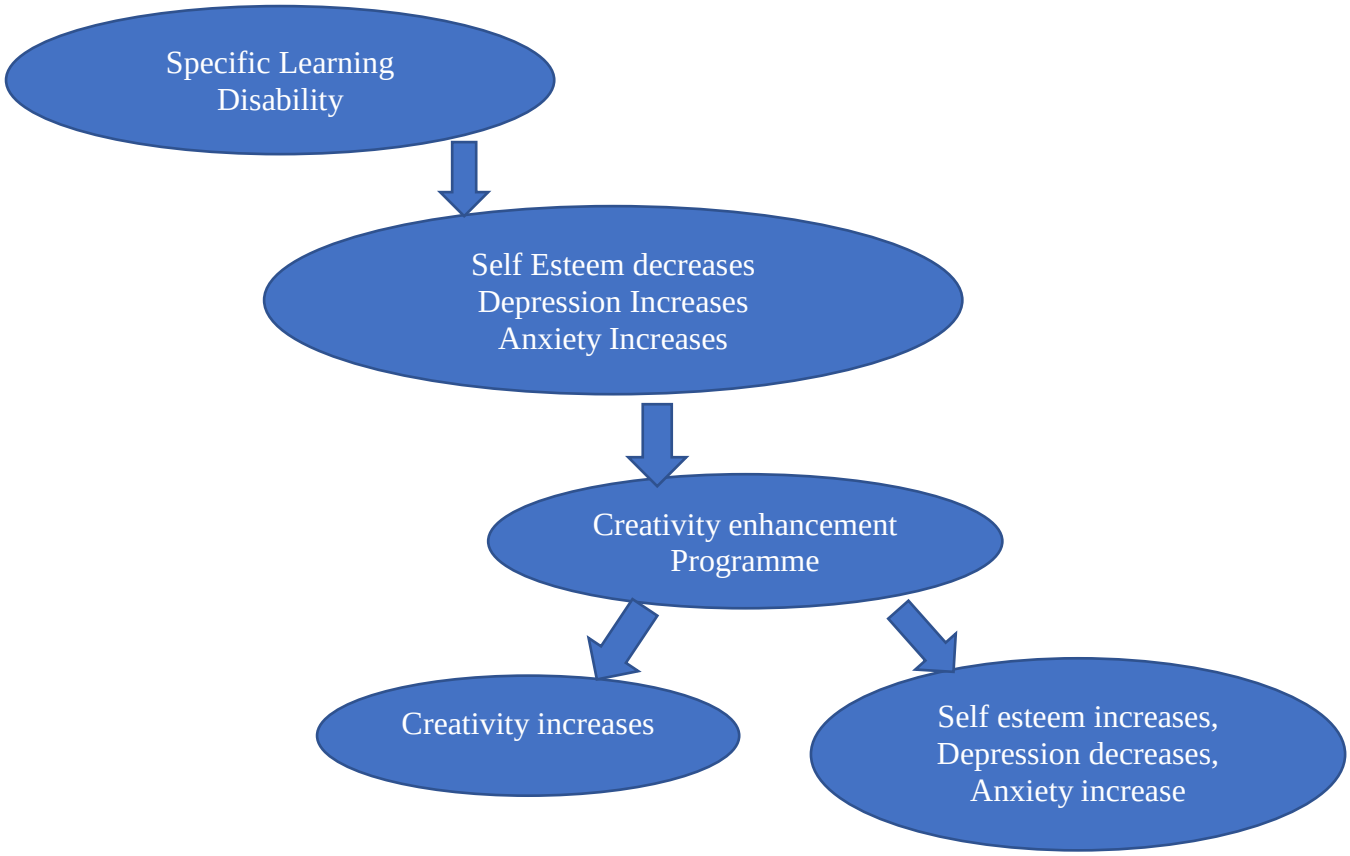

Figure 1. Theoretical Framework of the Study

Torrance (1960) has conceptualized creativity as a mixture of divergent thinking and problem-solving skills. Further, he classified creativity abilities under verbal and figural. His model of creativity focused on the following dimension, fluency, originality, flexibility, and

elaboration. He had argued that creativity could be assessed and nurtured. Such assessments aimed to nurture the creativity and not to label them less creative. This study aimed to develop a module for creativity enhancement based on the above-mentioned theories.

Need for the study

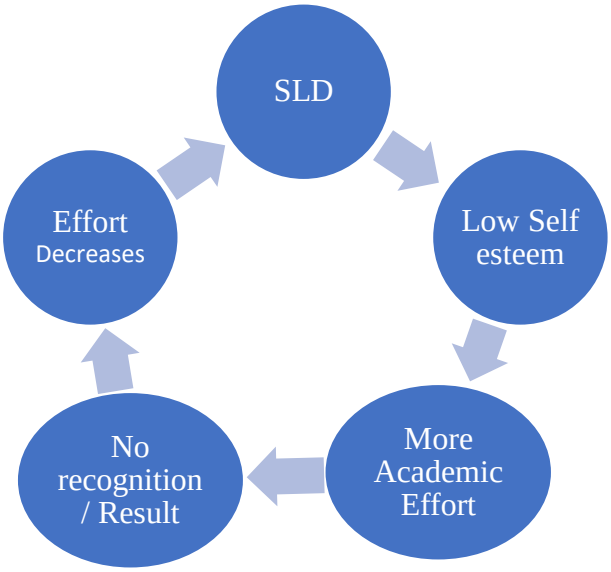

Figure 2. Need for the study

Children with SLD suffer academically and emotionally. Repeated failures and harsh punishments by authority figures affect their self-esteem. They hardly receive reinforcements for their efforts. Gradually they lose interest in their studies. Many of the children, who are entrapped in this vicious cycle, are not in a position to come out of these difficult circumstances. Remedial training and CBT based sessions have shown positive effect on helping the children with SLD. But many children do not get such services due to various reasons such as poverty, parental attitudes and lack of affordable such services in India. In this context, it is important to develop feasible class room based solutions to promote the self-esteem of children who are affected by SLD.

Research Questions

The present study assessed the level of creativity among Adolescents with SLD. The study also developed a creativity enhancement module for them. The study helped to examine how creativity enhancement programme affects self-esteem, anxiety, and depression of the children. Following research questions are considered in this study.

- Does creativity enhancement programme improve the creativity of Adolescents with the Specific Learning Disability?
- Does creativity enhancement programme reduce anxiety and depression in Adolescents with the Specific Learning Disability?
- Does creativity enhancement programme enhance the self-esteem of Adolescents with the Specific Learning Disability?

Review of Literature

Existing studies associated with the SLD have been identified through various search engines such as EBSCO, PROQUEST, JSTOR, SAGE, and Google Scholar. Following keywords were used; Specific Learning Disability, Prevalence of Learning Disability, Adolescent children with Specific Learning Disability, learning disability and creativity, learning disability and self-esteem, learning disability and anxiety, learning disability and depression, emotional problems faced by children with learning disability, creativity enhancement programmes for children with learning disability, creativity enhancement programmes for children, can creativity be enhanced, and remedial training for children with Specific learning disability.

Prevalence of Specific Learning Disability

Mogasale, Patil, Patil, and Mogasale (2012) conducted a cross-sectional multi-staged stratified randomized cluster sampling study on third and fourth standard children. A screening test was done to discard children with physical impairments and based on the

intelligence level. The prevalence of SLD was found to be 15.17%, whereas 12.5%, 11.2%, and 10.5% had dysgraphia, dyslexia, and dyscalculia respectively.

Choudhary, Jain, Chahar, and Singhal (2012) observed 500 students of class three to five. They used the dyslexia assessment questionnaire (DAQ). Forty-eight students were identified with dyslexia. The reported prevalence of LD was 10%.

Arun, Chavan, Bhargava, Sharma, and Kaur (2013) carried out a cross-sectional study on school students of Chandigarh during April 2008 – May 2009. The final sample size was 1920. The study was done in two phases, conducted in 10 schools. The point prevalence was found to be 1.58 percent.

Ramaa (2000) did a review study on Indian studies on the prevalence of LD; it was reported to be 3-10 percent among student's population in the States of Karnataka, Kerala, and Tamil Nadu. Another study conducted in India showed the prevalence of SLD as 13 percent in primary school children (Agarwal, Agarwal, Upadhyay & Singh, 1991). From a hospital-based sample in the north region, the prevalence of LD was one percent (Kohli, Malhotra, Mohanty, Khehra & Kaur, 2005).

Psychological problems of the Children with SLD

Wilson, Armstrong, and Walcot (2009) did a study in children with LD and children without LD on their mental health problems. The sample was 15 to 44 years of age self-reported people with LD. The sample was taken from the Canadian community health survey. The multistage cluster sample design was used. The adolescent group compared to the adult group had higher mental health problems. Mental health problems such as suicidal thoughts, anxiety, depression, visiting mental health professionals, and overall mental health issues of people with LD was twice more than children without LD. Even after controlling the social support, physical health, education, and income, mental health problems were found. Between genders, there was no difference in mental health problems.

Baumeister, Storch, and Geffken (2008) in their study had 303 participants referred by paediatricians, psychiatrists and self-referred for various factors out of which 77 were diagnosed with LD. The sample was 77 who had completed the child behaviour checklist. The other scales used in the study were Conner's parenting rating scale-revised, Children's Depression Inventory, and Revised Children's Manifest Anxiety Scale. The results of the study showed that children with LD had higher peer victimization and that had a high correlation with depression and anxiety.

Gallegos, Langley, and Villegas (2012) did a study on 4th and 5th graders of eight Mexican schools aged nine to 12 years of children. 130 children with LD and 130 children without LD was taken for the study from low socio-economic status. Based on the school records children were identified. The children with LD were more vulnerable to anxiety and depression compared to their typical peer.

Arthur (2003) has done review study, which showed that studies on LD group were comparatively less than the non-disabled group. In the study, the main focus was on parent bonding, emotional disturbances, child development, psychotherapy and psychological assessment of people with LD. The studies had shown that children with LD had highly significant emotional problems and disturbances. But professionals were reluctant to deal with such children due to their complex behaviour that could not be communicated, treated and easily understood in conventional ways.

Kohli, Malhotra, Mohanty, Khehra and Kaur (2005) studied the emotional problems of Indian children with SLD. The results of their study showed that they faced difficulties in adjusting in the social community, in work setting. Children with SLD also have low self-esteem and chances of school drop outs, demoralization and deficiency in social skills are high among them.

Lahane, Shah, Nagarale, and Kamath (2013) reported that children with SLD used to experience the repeated academic failures and unfavourable school reports. Subsequently, parents were inclined to develop unfavourable attitude towards such children and mothers were likely to involve more in academic activities. In fact, such changes tend to lead an assumption among children that they are not good enough to pursue academics and which would decrease their self-esteem.

Magg and Reid (2006) did a metanalytic study which showed that children with LD compared to children without LD had the higher rate of depression. 15 studies were taken for the study. Studies from 1977 to 2003 were included because 1977 was the year when LD was considered the federal category of disability.

Weiner (2004) did a systematic review article which social skill deficits were found in children with LD. They developed anxiety, depression and low self-esteem due to being socially rejected and being bullied by peer group. They were less assertive, less cooperative and had fewer leadership skills. Children internalized their problems and led to depression, anxiety and low self-esteem due to the feeling of loneliness.

Murray and Greenberg (2006) studied the relationship of children with different high incidence disabilities (LD, mental retardation, behavioural disorders and other health impairments) with parents, teachers, and peer. 96 participants were selected from the 5th and 6th grades. The participants were under special educational services. Depression and anxiety were among children, who had greater parental and peer alienation.

Ranjana and Moudgil (2017) studied how parenting styles had an effect on the self-esteem of children with LD. The sample was 100 students aged 18 to 20 years randomly selected from various educational institutions. The study showed that children with an authoritarian father and mother had lower self-esteem compared to children with authoritative father and mother.

Alexi, Rappo, and Pepi (2014) studied 132 participants 52 girls and 80 boys of the 4th grader with an average age of nine years. The results showed that children with the LD had depression, anxiety, and low self-esteem and there was no gender difference in emotional problems. Depression was positively associated with anxiety and negatively associated with self-esteem. Frequent academic failures led to anxiety symptoms and avoidant behaviour to cope with threatening performance. Depressive symptoms and school anxiety were more among children with the LD than their peers with the typical level of learning. Children with the LD had increased negative effects such as irritability, low level of concentration, decreased interest, depressed mood, and fatigue.

Lackaye and Margalit (2006) did a study on 441 LD students and found that children with LD showed the higher level of loneliness, lower levels of positive mood, hope, sense of coherence, academic self-efficacy, effort investment and lower levels of achievement. Socio-emotional profiles of children with the LD were similar to low and low average groups.

Myers, Willise, and Villalba (2011) conducted a study among 225 students of 9th and 12th grades aged 15, 16 and 17, most of them were males. Instruments were sent online and four weeks' time was given for them to complete and140 students gave a fully completed data. Five-factor wellness inventories and coppersmith's self-esteem inventory was given. The final results showed that three important wellness factors like coping, social self-factors and creative self that increased the self-esteem of children. Academic success also improved as a result of wellness counselling interventions.

Recently the emotional aspects of children with the LD are gaining importance (Hernandez-Halton et al., 2000; O'Connor, 2001), and studies have shown that these children have the problem with their emotions. Attention was paid to develop their adaptive behaviour, describing and measuring cognitive behaviour, treating challenging behaviour, and evaluation because of less knowledge and experience. Emotional needs were paid less

attention. Authors have criticized that regarding lack of attention paid to emotional aspects of children with LD. They also commented that fewer studies were available on emotional aspects of children with LD.

Creativity Enhancement Activities that Enhance Creativity Reduce Anxiety and Depression and Increase Self-esteem

Howard, Jones, Taylor, and Sutton (2010) studied the influence of play as a prior task on the creativity of young children (6-7) among 52 children. Members of experimental group played with salt-dough for 25 minutes, while the control group was given structured exercise of copying the text from the board. Following that children were asked to make collage of creature with few tissue papers. The study showed the positive effect of prior task on creativity and range of colours.

Smogorzewska (2012) found that 128 children who used “Storyline” and “Associations Pyramid” for telling stories had more originality than the stories developed individually. These methods helped to develop children’s’ language abilities and their creativity thinking. Activities were conducted through 14 subgroups.

Rusoniello, OBrein, and Parks (2009) conducted a study, in which they had 134 participants aged. The study focused on the use of casual video games on the psychological problems. The results showed that there was a significant difference in psychological problems in the experimental group after the games were played. The participants were students, faculty members and other staff of the university. Informed consent was taken, the profile of mood questionnaire was also taken. The experimental group had to select one of the three games. The control group was given the task to collect some health-related topics from the internet.

Byron and Khazanchi (2012) did a metanalytic study with 60 experimental and non-experimental studies. It examined the effect of rewards on creative performance. The studies

showed that rewards increased creative performance when the individuals were left to the freedom of choice, no time constraints, when given more positive, contingent and task-focused performance feedback, but otherwise rewards tend to have a negative effect on creative performance.

Gonçalves, Voos, Almeida and Caromano (2017) studied the effect of storytelling on children and found that anxiety decreased and self-esteem increased. Learning disorder, family difficulties, sexual abuse, neurological or behavioural disorders all are factors leading to aggression. There were 35 students in each group of age 6.5 to 8.1 years going to elementary school. The three groups are, one group is who received extra classes of massage, another group is which received extra classes in storytelling and control group. 50 minutes of extra classes were given each week. The teachers and coordinators wrote the aggression level and academic performance and found that their aggression level which included anxiety reduced and self-esteem increased and also academic performance increased.

Al-Yagon (2012) conducted a study to see the relationship between adolescents with LD and mothers, fathers, and teachers. The sample consisted of 369 Jewish adolescent children with the similar demographic neighbourhood of 10th and 11th grades aged 15 to 17 years attending the regular public high school, 184 adolescents of 10th grade and 185 adolescents of 11th grade. Their age, sex, parental education, marital status and work status did not affect the relationship. The study assessed the affect, loneliness, externalizing and internalizing behaviour, attachment security style, and attachment with the homeroom teacher. Not only academic failures are exhibited by adolescents with LD, but also socio-emotional factors like loneliness and internalizing factors like anxiety.

Hui, He and Sam Ye (2015) focused on assessing children's gains in creativity and their teachers' application of arts after a one-year collaborative arts education (Drama, Visual Arts, etc.). There were 790 children, 217 parents and 65 teachers in seven preschools. The

tools used were Creative Thinking-Drawing Production, Story-Telling Test, scales to assess Communication, and scale of Application of Arts. Children's communication and teachers' confidence in teaching improved significantly by using arts in education.

Heenan (2006) aimed to evaluate whether creative arts contribute to enhancing well-being. The study is based on a case study of an innovative art therapy programme. In-depth interviews and focus groups used to understand the experiences of the participants. Improvements in self-esteem and self-confidence were credited with art as therapy course. Participants felt the activities help them to enhance their wellbeing.

Synder (1997) found that Beverly Expressive art therapy is used to understand about them too and also to adjust to their inner conflicts (Kramer, 1993). Researchers found that the intervention was useful to reduce stress and aggression. Psychoanalyst Carl Jung (1964) mentioned that exploring and healing the inner conflicts would help one to achieve productive life.

Ott and Pozzi (2012) studied games on primary school children in the 3rd and 5th grade for three years aged 8 to 10 years. The sample was 40 in that 26 were girls and rest were boys. Five to six were in a group. Each student had to play individually for two working sessions. One hour per week. Behaviour was also monitored. 45 mainstream mind games were used by students. The adopted games were called brainteasers or puzzles or mini-games that can be completed in less than an hour. Three aspects were considered cognitive, affective and metacognitive in assessing creativity. The results showed that digital games improved the creativity of children.

Hsiao, Chang, Lin, and Hu (2014) tried to examine whether the traditional instructional method or instruction using digital games affected the student's creativity and their performance on manual skills. 51, 5th-grade students of Taiwan from two classes were the sample of the study. One class was the experimental group and other was the control

group. Results showed that Digital game-based learning improved their creativity. ToES the Digital game-based learning instrument had a positive effect on children's creativity and also on their manual skills. On the digital game-based environment, children showed better learning performance.

Russ, (2003) did a review study and the study showed that play has a role in improving divergent thinking and insight ability. Both cognitive and affective processes in play are related to divergent thinking. Central to both creativity and play is considered to be divergent thinking.

Ezell and Klein-Ezell (2003) followed a quasi-experimental design, where children with disabilities of elementary and secondary schools were trained, and they performed in front of the public. Once they were confident with few tricks, went to the next level. In the beginning, the audiences were pre-schoolers and kindergarten children of their schools. The performance was done for the normal children. The children improved their self-esteem.

Eisenberger and Rhoades (2001) in their study, children were asked to give 16 different titles for a movie about a student's summer vacation. Three judges rated (1, little or no creativity to 5, highly creative). Repeatedly giving the reward for creativity in one task for preadolescent students increased their creative performance in subsequent tasks. In the second sample, children were given two short stories and were asked to give five different titles for each story about popcorn and snowy night. Three judges rated (1 little or no creativity to 5 highly creative). Similar results were obtained even in the second sample. It shows the importance of rewards in creativity enhancement.

Granic, Lobel, Engels, and Rutger (2014) reported that exposure to puzzle video games with minimal interfaces reduced anxiety, negative thoughts, improved mood, promoted relaxation, and increased positive emotion.

Tabrizi, Talib, and Yacoob (2011) did a study on adolescent children of Tehran Iran aged 12 to 15 years the sample was 267 females and 250 males in selecting cluster random sampling was used. Ten boys' schools and ten girls' schools were selected using the lottery method. The tools used were Revised Children's Manifest Anxiety Scales (RCMAS), and Abedi Creativity Test Questionnaire (ATC). The results of the study showed creative thinking would reduce the anxiety disorders. Various methods such as acting, dancing, music and dancing would reduce the anxiety.

Creativity and Self-esteem

Goldsmith and Matherly (2001) did a study on 118 college students both males (n=55) and females (n=63) and showed the positive correlation between self-esteem and creativity. As previous studies showed there was no much difference between males and females, the study also showed the same result. But in females, the relationship was stronger than for males.

Fleith, Renzulli, and Westberg (2002) examined whether creativity enhancement programme has an effect on self-concept and have found that the self-concept increased as a result of a training programme on creativity. The children's creativity improved significantly. The study was conducted in New Zealand which included both monolingual and bilingual children. The training programme consisted of 40 activities; activities were given for 15 weeks three activities per week. The children with poor academic performance showed an increase in their self-concept. Results indicated that such children with an opportunity to exhibit their potentials might improve their self-esteem.

Wag and David (1996) in their study used 64 preschool children 4 and five years old, (36 boys) their mothers and daycare head teachers *(n= 20)* and found that self-esteem and creativity are positively correlated. When compared with shyness creativity was negatively

correlated as rated by teachers, parents, and children and positively correlated with self-esteem as rated by teachers, parents and children.

Olenchak (1995) used a creativity enrichment programme, which was highly structured, was given to the children of third, fourth and fifth-grade children who were with LD and the results showed that their self-concept and creative productivity increased after involving in the training programme for one year.

Effect of Creativity on anxiety and depression

Rigby and Waite (2006) found in his review article that CBT along with other creative approaches like stories, metaphors and experimental exercises in group therapy improved their self-esteem, reduced depression and anxiety. Okebukola (1986) found that anxiety and creativity were negatively correlated. Those who had high anxiety performed badly in creative tasks. Byron and Khazanchi (2011) examined whether anxiety had a relation to creative tasks. The results have shown that creativity has negatively correlated with anxiety. The metanalytical study was done with 59 independent samples. Thus, studies clearly support that creativity has been affected among people with anxiety. Brooke and Myers (2015) in their book narrated the application of creative tasks and therapy for handling depression in children. They have presented the framework of interventions and outcome of such interventions. Tabrizi, Talib and Yacoob (2011) reported that Anxiety disorders have decreased persons' creative thinking. Developments or improvements in the knowledge and techniques increased the persons creative thinking, and it helped to reduce the anxiety disorders

Can Creativity be Nurtured?

Runco (2003) in his review study he has stated that creativity is something that is not found only in gifted or genius, and creativity can be nurtured. He focuses on everyday creativity, not the genius creativity. Not only in professional fields but in the natural

environment also creativity is found. It's not only found among eminent persons who have Creativity and potential self-actualization. This is known as everyday creativity (Runco & Richards, 1997). Richards et al. (2002) spoke further about everyday creativity and its relevance among children to enhance their quality of life and self-esteem.

Tafti, Hameedy, and Baghal (2009) have studied the memory skills and creativity of dyslexic and non-dyslexics. Diagnostic Farsi Reading Test, TTCT, and Cornoldi Memory Tesst were the tools used. Normal children performed better in visual-verbal memory and in audio-memory. Children with dyslexia performed better in visual and audio memory of concrete words. They were good in visual-sematic memory, and pictorial memory compared to verbal memory. They also scored better than normal children in original thinking and equally in creativity.

Mellou (1996) reported that the appropriate environment, continuous enrichment in schools, the creativity of teachers and methodology adopted in teaching and everyday experiences would enhance the creativity of children.

Bigozzi, Tarchi, Pinto, and Donfrancesco (2016) examined the children with dyslexia to assess their creativity and comparison with their peer group who did not have reading impairment. Among 190 Italian children of nine and 13 years participated in this study. Children with dyslexia performed better than the other children. They showed better scores in originality, elaboration and titles of scores both groups had no major difference in fluency and flexibility.

Kapoula, Ruiz, Spector and Vernet (2016) assessed creativity of teenagers with and without dyslexia in France and in Belgium, with the Torrance Test of Creative Thinking (TTCT). Children with dyslexia showed better creativity than children without dyslexia. This finding supports the assumption that the children with SLD are creative.

Beghetto and Kaufman (2014) discussed the model of Four C's mini C, Little C, Pro C and BIG C. A famous music composer might be in Big C level, the local music composer will be in pro c level and a child who writes a simple song may be in mini C level. Practice is the most important factor for progressing in creativity. Mini c is the everyday creativity and Big C is at the level of a genius. The Progression may not be in the linear form, from Mini C can go to Pro C. Most of the studies focus on mini C and Big C, so he added two more that is little C and pro C. He elaborates that feedback is important to move from mini c to little c and from there rigorous practice and from there to Big c time. In the classroom, the smaller creativity levels have to be encouraged.

Factors Affecting Creativity

Fearon, Copeland and Saxon (2013) studied the relationship between parenting styles and creativity among Jamaican students. The participants were 54 parents (46 women & six men) and 66 students of Jamaican population (48 girls &18 boys). Creativity was the dependent variable, measured by the Torrance test of creativity (TTCT), assessed verbal and figural creativity. The results showed that the authoritarian style of parenting influenced on creativity negatively. The family environment also influenced creativity, as parent's creativity was correlated with creativity among children.

Similarly, Boling, Boling, and Eiseman (1993) had a study among participants of 5th to 8th-grade children of 10-14 years of age. There were 40 children 22 females and 18 males. Eisenman's opinion survey 30 items true or false and paper-pencil measures to measure creative attitudes. In this study, a combined score of originality, flexibility, fluency, and elaboration was given. The study showed that firstborn males and second born females were higher in creativity. In case of first-born females, his opinion is that parents are anxious about handling first born and moreover girl faces harsh socialization and in case of males the

greater intellectual stimulation of being firstborn males with adult companionship in the family till the second child is born.

Lau and Cheung (2010) conducted the study among 2476 children, in that 1222 boys and 1254 girls were given electronic Wallach- Kogan creativity test for grade four to nine Chinese school children. The test assessed fluency, flexibility, uniqueness, and unusualness. In different grades, girls showed improvement in some areas of creativity and some areas boys showed improvement. Age and gender influence creativity as per this study, but in some earlier studies, these two factors showed no influence on creativity. Some authors say creativity, moves in a U shape and some authors that creativity moves in J shape After Grade nine gender differences were narrowed down.

Hoff (2005) studied the relationship between imaginary companions and creativity. The sample size was 69 students from three Swedish schools, 4th graders, 35 girls and 34 boys of different demographic profiles. The study found girls had more imaginary companions compared to boys and students with imaginary companions were more creative in two areas, i.e., unusual uses test and activity questionnaire test and had the low self-image. The girls had more animals as imaginary companions than boys. Girls had the opposite sex as imaginary companions more than boys. Girls had real playmates along with pretending playmates.

Silvia (2015) did a metanalytic study to examine whether intelligence influences creativity. Earlier it was believed that both are two different entities, but in recent days new theories, assessment methods, and statistical tools, cognitive neuroscience have shown that there is an association between creativity and intelligence.

Cha´vez-Eakle, Jonathan Eakle and Cruz-Fuentes (2011), studied a metanalytic relation between personality and creativity. Certain personality characteristics and traits have

shown an association with creative. Creative personality had certain brain activation centres. Certain development events are also essential for personality development and creativity.

Creativity Enhancement Programmes

Al-Zyoudi, (2007) proposed Cognitive Research Trust programme (CoRT), which aimed to enhance thinking skills including creative thinking and critical thinking (De Bono, 1977). Children benefited to express their ideas and to recognize their potentials. Two components of CoRT programme breadth and organisation was used for 14 weeks on children with experimental group children with LD. CoRT programme showed a significant improvement in the creative skills of children with LD. The findings support the idea that a creativity training programme enhances students' creative skills, which other researchers have corroborated later (Monahan, 2000; Renzulli, 2003; Winebrenner, 2003; Daivs & Rimm, 2004; Kattab & Al Hadidi, 2008).

An Indian study examined how De Bono's CoRT Thinking Program influence the ability of High School children on concept mapping. The study had both experimental and control group with 51 participants each in both groups. Multiclustered random sampling used to select the participants. Members of experimental group were trained using CoRT thinking programme. Findings show the positive changes in children's ability in concept map ability. The Intelligence level was also a strong predictor of the positive effect among children (Kumari & Gupta, 2014).

Melhem and Isa (2013) used the CoRT programme for 6th-grade children who had LD in Mathematics. In that study, breadth was used. The sample of 93 students were given training for two periods a week for 16 weeks, i.e., four and half month. The results showed that the programme had a significant effect on the critical and Creative thinking of children with LD.

Karwowski (2014) used Eureka' imaginative training, to enhance creativity, motivation, attention, memory and linguistic abilities. And children benefitted out of the programme.

Dziedziewicz and Karwowski (2015) proposed a programme named as Creativity Compass, the main goal of this programme was stimulating child's creativity. The programme helped children to nurture creative imagination and cultural competency. In a study where pre-and post-test was given and found the children significantly improved after involving in creativity compass programme.

Treffinger, Selby, and Crumel (2012) prepared Future Problem-Solving Programme International (Torrance, Torrance, Williams & Horng, 1978) which has been one of the most implemented training Programmes for creativity. The Programme's goals were the promotion of creativity, the development of cognitive skills, include emotional and social competencies related to creativity. The Programme aims to enhance creative thinking, with problem-solving skills while exploring the future, based on real-life examples.

Morais, Jesus, Azevedo, Araújo, and Viseu (2015) used the intervention programme. FPSI (Future problem solving) to see its influence on creativity. The participants were 77 children in the experimental group and 78 children in the control group. 7th to 12th grades children aged 12 to 17 years attending the Portuguese school. The programme was for four months in weekly sessions. Representation of creativity and academic motivation was assessed on pre-and post-tests. As the promotion of creativity is a great concern of present education settings, the programme was found to have a significant influence on creative problem solving not only on the cognitive level but also the emotional level.

Purdue Creative Thinking programme (Feldhusen, 1983) covers 28 audiotaped lessons illustrations to promote creativity. Jaben (1987) studied 50 students with LD, the TTCT used to assess the creative expression. They used the Purdue Creative Thinking to stimulate

creativity among children with SLD. Children experimented group had higher mean of verbal creativity.

Nogueria (2006) created a module named as MORCEGOS. The aim of the programme was to enhance the creativity of children of two groups. Group A consisted of gifted students (Six-14 years), and Group B consisted of children with LD (12-16 years). The module was adapted based on Torrance test of creativity thinking (TTCT). The results showed that both groups benefitted mainly on originality and fluency and positive effects on enjoyment and development.

Cooperative, creative play programme psychoeducational interventions, the programme stimulated communication, cohesion, confidence, and the development of creativity. Garaigordobil and Berrueco (2011) did an intervention study and used cooperative, creative play. There were 86 participants aged five to six years, distributed in 5 groups belonging to four school centres from the Community La Rioja (Spain). Torrance Test of Creative Thinking, Scale of creative behaviours and personality traits were the tools used. The results showed that programme stimulated verbal creativity in three area flexibility, originality and fluency and also graphic creativity in the areas of elaboration, originality and fluency. The programme significantly improved the creative behaviour and personality traits.

Garaigordobil (2006) Conducted a study on 86 participants aged 10 to 11 years these participants were divided into four groups, from two schools in Basque country in Spain this sample was taken. Fifty-four participants were sent to the experimental condition, and 36 were sent to the control group. Fifty-two participants were boys, and 34 were girls. These participants both in control and experimental group were similar in age, gender, motivation, academic achievement etc. Socioeconomic status and parental education were average. The quasi-experimental methodology was used. The results of the study showed that creativity could be trained and play has a positive effect on creativity.

Scott, Leritz, and Mumford (2004) did a metanalytic study of programme evaluation for which they used 70 studies. Creativity is gaining most important because it is linked to all areas of life. Rewards were found as effective in promoting creativity (Collins & Amabile, 1999; Eisenberger & Shanock, 2003). Creativity training had helped even disabled students (Jaben,1983,1985a.).

Ma (2006) conducted a metanalytical study on creativity enhancement programme and reported effectiveness. Age and duration of the programme did not have much effect. The programme consisted of 12 units. Swanson and Hoskyn (1998) did an experimental study on children with LD and reported the benefits.

From the above review, can be concluded that intervention programmes have to be revised as which is better for enhancing creativity.

Research Gap

Indian studies in SLD area focused more on prevalence and the impact of SLD on children. Some studies have focused on various intervention to address the remedial need of the children. Similarly, studies on creative enhancement programme have been developed among normal children. No major studies could be found while reviewing the existing studies published in peer-reviewed journals on improving creativity among children with SLD in India, though such attempts had been made in abroad. Many psychologists assume that creativity is positively associated with intelligence. Some of the key people who are part of educational settings still consider SLD as an outcome of low intelligence. Similarly many educationalists, teachers and parents assume that children with poor academic performances are not capable to achieve in their life. These two myths among parents and teachers, discourage them to focus on strengths of children with SLD. Prevalence of emotional problems among this population was well recorded. Also, attempts have not been made to examine the influence of creativity on self-esteem, anxiety, and depression of children with

SLD in India. Hence the current study examined the effect of the creativity enhancement programme and examined the effect of creativity on the wellbeing of the children.

Methods

The aim of the study

The aim of this study was to develop and test the efficacy of Creativity Enhancement Programme (CrEP) for Adolescents with SLD which would help the children with SLD to reduce their anxiety and depression and to increase self-esteem.

Objectives

- To develop a Creativity Enhancement Programme (CrEP) for adolescents with SLD
- To assess the efficacy of the CrEP to enhance the creativity of adolescents with SLD
- To assess the efficacy of the CrEP to enhance the self-esteem of adolescents with SLD
- To assess the efficacy of the CrEP to reduce the anxiety and depression of adolescents with SLD

Hypotheses

- Creativity enhancement programme will increase the creativity of adolescents with specific learning disability.
- Creativity enhancement programme will increase the self-esteem of adolescents with specific learning disability.
- Creativity enhancement programme will reduce the anxiety of adolescents with specific learning disability.
- Creativity enhancement programme will reduce depression of adolescents with specific learning disability.

Variables and Operational Definitions

Creativity. It is a cognitive ability that involves following areas of creative thinking, originality, fluency, flexibility, and elaboration. The test, which was developed by Baqer

Mehdi in 1973, which consisted of both verbal and nonverbal assessment of creativity, was used to measure originality, flexibility, elaboration and fluency.

Fluency (Verbal Creativity). Fluency is represented by number of relevant and unrepeated ideas which the child produces (Mehdi, 1973).

Flexibility (Verbal Creativity). Flexibility is represented by a child's ability to produce ideas which differ in approach and thought trend (Mehdi, 1973).

Originality (Verbal and Non-verbal Creativity). Originality is represented by uncommonness of a given response. Responses given by less than five percent of the group are treated as original (Mehdi, 1973).

Elaboration (Non-verbal Creativity). Elaboration is represented by a child's ability to add pertinent details (more ideas) to the minimum and primary response to the stimulus figure (Mehdi, 1973).

Self Esteem. It is a perceived evaluation of one's own mastery over intra and interpersonal spheres of life. High score in Rosenberg's Self-Esteem Scale indicates the high self-esteem (Rosenberg, 1965).

Depression. It is a negative affective state characterized by physical and mental feeling of inadequacy to pursue life. The Depression, Anxiety, Stress scale (DASS), which was designed by Syd Lovibond and Peter Lovibond at the university of New South Wales in 1995 was used to measure depression. High score in the dimension of depression in DASS indicates higher depression (Lovibond & Lovibond, 1965).

Anxiety. It is an affective state, characterized by worries about the present or future daily hassles of life. The Depression, Anxiety, Stress scale (DASS), which was designed by Syd Lovibond and Peter Lovibond at the university of New South Wales in 1995 was used to measure depression. High score in the dimension of anxiety in DASS indicates higher anxiety (Lovibond & Lovibond, 1965).

Research Design

This is a true experimental research design in which the study follows pre- and post-tests only research design. Mainly random allocation of samples to groups and use of control group have been applied in this study. Random selection of study population was not possible due to the screening process which had been applied to select eligible participants. The screening process to identify eligible subjects was a tedious process which included IQ assessment and SLD screening test. Thus, the study constitutes two groups, the experimental group and control group. The experimental group was exposed to structured creativity enhancement programme. Pre-and post-assessments of both groups examined the effectiveness. For the control group, after the completion of the study assessments, researcher briefed the strategies used for experimental group and encouraged them to practice at home.

Population

Male and female students, aged 12 to 15 years studying in 6^{th}, 7^{th}, 8^{th} and 9^{th} Standards in state syllabus English medium schools with specific learning disability were selected as the sample of the study. For selecting sample, 33 schools, which were situated in South Bengaluru, were visited, and nine schools gave permission, out of which five schools were selected based on similarity of syllabus, settings and background. The principal's permission was taken, then teachers were asked to give a list of students with poor academic performance. Informed consent from parents and assent of students were taken. To assess the IQ (Intelligence Quotient), MISIC (Malin's Intelligence Scale for Children) was administered and SLD-SQ (Specific Learning Disability Screening Questionnaire) by Uday K Sinha (a collaborator in NIMHANS Battery) was used to screen for SLD. NIMHANS battery could not be used as it is used for children till the age of 12 years. Using SLD-SQ, SLD has been assessed among children in collaboration with teachers and parents.

Sampling Techniques and Sample Size

Selection of sample was done through four phases. Firstly 33 schools were identified using purposive sampling which follow state syllabus from south Bangalore and approached all of them for permission. Among those schools nine of them gave permission in which five of them have been selected for the study considering the homogeneity in socio economic and academic background.

Table1

Socio-demographic Details of the Population

Variables	Response	Frequency	Percentage
Gender	Male	208	16%
	Female	1314	86%
Age	12-15 years	1522	100%
Syllabus	State Syllabus	1522	100%
Domicile	Urban	1522	100%
Number of Children SLD		177	12%

Second level of selection of participants has happened with the support of teachers through identifying children with low academic performance (scored less than 40 % in one subject or more than one subjects). Third level these children were screened for SLD. At fourth level randomly allocated participants to experimental and control groups. The sample is 50 each in both the experimental and control group. The total sample size of the study was 100.

Table 2

Details of Selection of Children with Specific Learning Disability

Variables	Response	Frequency
Gender	Male	38
	Female	139
Total number of children with Learning difficulty identified by teacher		177
Children who did not give informed consent		40
Children who participated IQ and SLD screening		137
Children with low IQ		5
Children with normal IQ and without SLD		24
Number of drop outs in study after IQ and SLD before recruitment for main study		8
Total number of children who had LD (Sample Size)		100

Inclusion Criteria

- Adolescents (12 to 15years)
- Both genders

Exclusion Criteria

- Children with IQ below 90
- Children with a physical disability
- Children with reported history of psychoses and obsessive-compulsive disorders

Tools for Data Collection

Malin's Intelligence Scale for Children. Intelligence Scale for Indian Children (MISIC) is the Indian adaptation of the Wechsler Intelligence Scale for Children (WISC). It is used for children in the age group of 6-15 years. The test has been standardized the MISIC on 1,200 children. It consists of 11 subsets, classified into Verbal and Performance Subsets. The test- reset reliability is 0.91 (FSIA) concurrent as well as congruent validity has also been established. This tool has been widely used in the Indian context for assessing intellectual abilities in Children (Malin, 1969).

Specific Learning Disability Screening Questionnaire (SLD-SQ). This test was developed by Uday K Sinha in 2012. Test-Retest reliability of the questionnaire at the interval of one-month time period was 0.87. The cut off score of 4 has shown the sensitivity 0.83 and specificity 0.77 (Sinha, 2012).

Baqer Mehdi Test of Creativity Thinking. This test was developed by Baqer Mehdi in 1973. It consists of both verbal and nonverbal assessment of creativity. It measures originality, flexibility, elaboration and fluency (Mehdi, 1973).

Rosenberg's Self-esteem Scale. It was developed by Morris Rosenberg in 1965. It is a self-rating scale. It is a four-point rating scale. Higher the score higher the self-esteem. The scale ranges from 0 to 30. Scores between 15 and 25 are within normal range, scores below 15 suggest low self-esteem. Internal consistency showed is 0.77 (Rosenberg, 1965).

The Depression, Anxiety, Stress scale (DASS). This test was designed by Syd Lovibond and Peter Lovibond at the university of New South Wales in 1995. This test is made up of 42 self-report items rated on a four-point scale. The internal consistency was high, with Cronbach’s alphas of 0.94, 0.88 and 0.93 for depression, anxiety and stress (Lovibond & Lovibond, 1965).

Procedure

The permission of schools was sought. The focus was on children aged 12, 13, 14 and 15 years. Informed consent of parents and children was taken. Selected students list constituted the sampling frame. Participants were allocated to the experimental group and control group randomly. Pre-test (2 hours) was done using the above-mentioned tools for both experimental and control group. Children in the experimental group were divided into groups of four to six members. They were exposed to creativity enhancement activities weekly for 12 weeks with in a period of three months. Feedback was provided for each child. First post-test for both groups was done soon after the completion of the intervention. Second post-test was conducted after three months after the completion of the intervention for both groups.

Intervention Module

Specific scripts were prepared for each creativity enhancement activities based on nine creativity enhancement programmes from the literature review. The materials, instructions, and prompts were standardized with the support of experts and existing literature. Based on Torrance model of creativity, following areas of creativity such as originality (e.g., framing a title for a movie or story), fluency (e.g. alternative uses) flexibility, and elaboration, were focused. In Creativity Enhancement Programme (CrEP), 12 activities were included and scheduled for12 weeks programme. A weekly session of 60 minutes was carried out. Workshop mode was adopted for creativity enhancement programme for each group. In each session of the programme four to six participated.

Table 3

Content and Details of Intervention Programme

Sl.No	Title	Description of activity	Outcome
1	Design a Home	Using a sheet of corrugated paper each child would construct a mini house for a favourite cartoon character.	Non- Verbal creativity such as elaboration and originality.
2	Dress Making	Newspapers will be provided for children as well as scissors and gum. Their scales will be used to take measurement some random ideas will be announced in the class like cap for your puppy.	Non- Verbal creativity such as elaboration and originality.
3	Bridge Construction	Plain white cards will be provided for children to make bridge.	Non- Verbal creativity such as elaboration and originality.
4	Collage Making	Children will be given five values love, care, trust, patience and hard work. They would select one value as a theme and make a collage by using provided sheets of newspaper.	Non- Verbal creativity such as elaboration and originality.

Sl.No	Title	Description of Activity	Outcome
5	Sand Art	Sand will be given to the children and can construct castles, animal shapes or clown faces.	Non-Verbal creativity such as elaboration and originality.
6	Picture Story Construction	Pictures will be collected from newspaper, and participants have to construct a picture story sequence.	Verbal creativity such as fluency, flexibility and originality.
7	Draw a Garden	Participants will be provided with drawing materials and sketch the details of a garden.	Non-Verbal creativity such as elaboration and originality.
8	Best out of Waste	The trainer will be providing some waste materials to make a meaningful thing out of the given items	Non-Verbal creativity such as elaboration and originality & Verbal creativity such as fluency, flexibility and originality.

Sl.No	Title	Description of Activity	Outcome
9	Find a Friend	Finding a friend from school and telling about the person and about what person likes and their mutual likes.	Verbal creativity such as fluency, flexibility and originality.
10	Discovering Self	In this activity initially, trainer will fix a sheet of paper on the backside of the child's shirt collar and each child will move around and write positive qualities of every members in the group on the sheet fixed on the collar. After the 20 minutes of this activity the following session trainer will encourage the child to read loudly about his or her qualities observed by his fellow classmates	Verbal creativity such as fluency, flexibility and originality.
11	Title for a Movie	A movie clip will be shown to children and ask them to give a title.	Verbal creativity such as fluency, flexibility and originality.
12	Move with Music	Children would be encouraged to dance with their own steps and including some new steps for a music.	Elaboration and Originality.

Validation

The intervention programme was validated by:

- Dr. Malavika Kapur (Retired Professor NIMHANS, Visiting Faculty NIAS, National Institute of Advanced Studies)
- Dr. Uma Hirisave (Professor NIMHANS)
- Dr. Vijaya Raman (Professor St. John's Medical College)
- Dr. Gayatri Krishna (Director, Brindavan Education Trust

Standardization of Creativity Enhancement of Programme

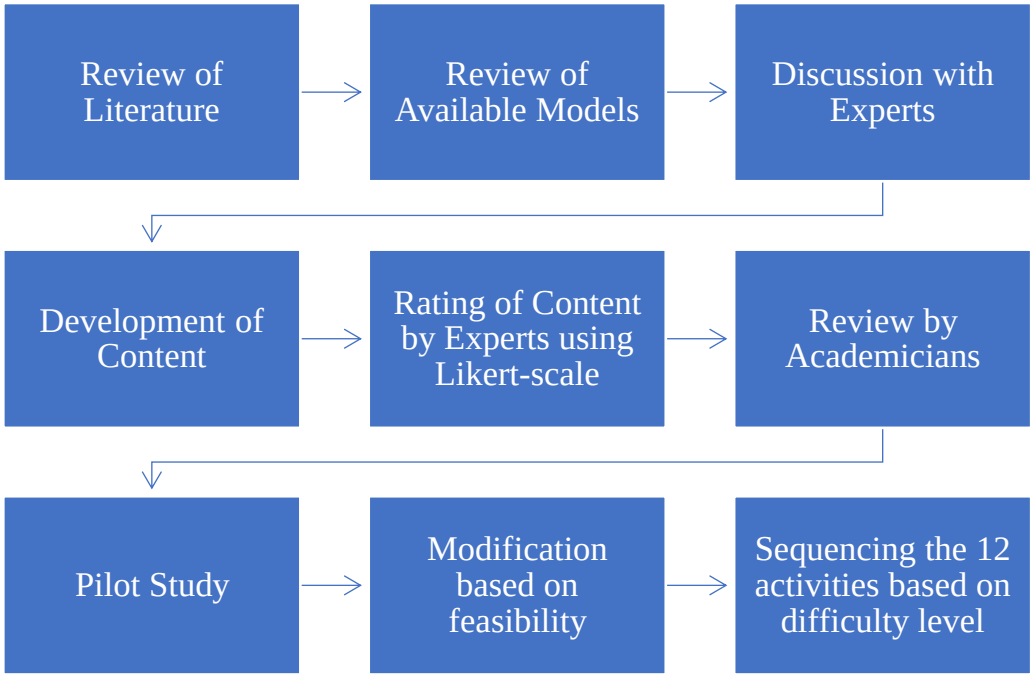
Review of Literature
Review of Available Models
Discussion with Experts
Development of Content
Rating of Content by Experts using Likert-scale
Review by Academicians
Pilot Study
Modification based on feasibility
Sequencing the 12 activities based on difficulty level

Figure 3. Process of Standardisation of CrEP

Pilot Study

To examine the feasibility of tools of data collection and the intervention module, a pilot study was carried out among 12 participants. Subsequently the scales which were selected to assess the depression and anxiety (Hamilton Scale) were dropped. Afterwards DASS in consultation with experts has been administered among 12 pilot study participants and has been found to be more feasible to use. Similarly, activities, which had been planned to nurture creativity were conducted among selected 12 children with SLD and few

modifications were done to make the programme more child friendly. Same children were included in the main study.

Field work details

- Visited 33 schools of Bangalore Urban.
- Nine schools gave permission
- Five state syllabus schools were selected based on similar settings
- July 2018 to September 2018, finding of schools, permission, assessments and pilot study
- September 2018 to December 2018 intervention and post assessment were carried out. In March 2019 post-post assessments were conducted.

Statistical Analysis

Descriptive statistics such as frequency analysis, Mean, and the Standard Deviation were used to describe the sample. Pre, post and post-post assessments of outcome variables were compared between groups at three-time levels. The effectiveness of the creativity enhancement programme was evaluated using Repeated Measures of ANOVA. The ANCOVA test could not be used, since there were no continuous or interval variable which was considered as an independent variable. Though creativity enhancement programme attendance has been considered as an independent categorical variable, creativity score has not been linearly associated with dependent variables of the study. Hence to estimate the efficacy, through comparing experimental and control group, across three time points, repeated measures of ANOVA has been recommended by statisticians. Many variables were not normally distributed in the study. Software such as SPSS (Statistical Package for Social Sciences 20) was used to conduct statistical analysis.

Ethical Consideration

- Took informed consent of the director of the organisation and parents

- Took assent from the children (participants).
- The respondents and guardians were detailed about the purpose and objectives of the study before the data collection.
- Confidentiality was maintained about the details enumerated in the respondents.
- Children were allowed to withdraw from the study at any point of the timeline.
- The information gathered was be used only for the research purpose.
- Participation in the study was voluntary.
- Institutional Ethics Committee clearance was obtained.
- Details of intervention and activities were briefed to children who participated in the control group after the post-post assessment. Parents of all children who participated in both groups were contacted over phone and informed them about the findings of the assessment and possibilities to nurture creativity through focusing on their strengths. Similarly, researcher discussed with school principals about organizing a workshop of children who were part of control group. They recommended to inform parents and to provide referrals to institutions, which provide regular remedial training. They also requested researcher to provide a manual for all children including experimental and control group for stimulating their creativity at home and school settings. To avoid the labelling of children, teachers were briefed individually about classroom based simple creativity stimulation task. Telephone based follow up motivation enhancement sessions are planned even beyond the study period to alleviate the distress of children with SLD.

Results

Table 4

Gender of Participants

			Group		
			Control	Experimental	Total
Gender	Male	Count	13	13	26
		% within Gender	50.0%	50.0%	100.0%
		% of Total	13.0%	13.0%	26.0%
	Female	Count	37	37	74
		% within Gender	50.0%	50.0%	100.0%
		% of Total	37.0%	37.0%	74.0%
Total		Count	50	50	100
		% within Gender	50.0%	50.0%	100.0%
		% of Total	50.0%	50.0%	100.0%

In the study female students (n=37, 74% each in both groups) were more than male students (n=13, 26% each in both groups). Females students were more in sample was influenced by the feasibility of getting permission from girls' schools.

Table 5

Baseline Information

Variables	Group	N	Mean	Std. Deviation
Age	Control	50	13.82	.91
	Experimental	50	13.42	.94
Marks Scored in Last Examination	Control	50	52.34	10.02
	Experimental	50	50.78	11.53
IQ	Control	50	101.14	6.92
	Experimental	50	101.52	6.92
SLD	Control	50	7.72	2.85
	Experimental	50	8.12	2.22
Self Esteem	Control	50	26.64	3.39
	Experimental	50	25.92	2.91
Depression	Control	50	13.10	7.50
	Experimental	50	12.02	8.90
Anxiety	Control	50	13.40	6.90
	Experimental	50	12.44	9.02

All baseline variables were all most equal in the both groups. And scores of age, IQ, SLD, Self-esteem, depression and anxiety were not statistically different, while comparing means of both groups.

Table 6

Fluency (Verbal Creativity): Comparison of Scores from Before, After and Post Assessment

	Group	N	Mean	Std. Deviation	F	Sig.
Fluency before intervention	Control	50	49.28	10.29		
	Experimental	50	50.71	9.75		
Fluency after intervention	Control	50	49.49	10.07	F(2, 196)= 1.033	P=0.95
	Experimental	50	50.50	10.00		
Fluency after 3 months from completion of intervention	Control	50	49.38	10.49		
	Experimental	50	50.61	9.58		

Note: Sphericity is assumed.

To compare the effect of creativity enhancement programme on verbal fluency among adolescents with SLD, Repeated Measures of ANOVA has been used. Result indicated both in control and experimental groups across three time points (before, after intervention and three months after the intervention, there was no significant change in their verbal fluency (F (2, 196) = 1.033; P=0.95). Mean scores of verbal creativity fluency dimension in control group were as given before intervention: M= 49.28 (SD= 10.29), after intervention: M= 49.48 (SD= 10.07) and after 3 months from completion of intervention: M= 49.38 (SD= 10.49). Similarly, mean scores of verbal creativity fluency dimension in experimental group were as given before intervention: M= 50.71 (SD= 9.75), after intervention: M= 50.5 (SD= 10.00) and after 3 months from completion of intervention: M= 50.61 (SD= 9.58). Though mean scores were not equal in both groups, but the difference was not statistically significant.

Table 7

Flexibility (Verbal Creativity): Comparison of Scores from Before, After and Post Assessments

	Group	N	Mean	Std. Deviation	F	Sig
Flexibility before intervention	Control	50	49.23	10.11		
	Experimental	50	50.76	9.95		
Flexibility after intervention	Control	50	49.18	9.96		
	Experimental	50	50.89	10.07	F (2, 196) = 0.226	P=0.98
Flexibility after 3 months from completion of intervention	Control	50	49.15	10.22		
	Experimental	50	50.84	9.79		

Note: Sphericity is assumed.

To evaluate the effect of creativity enhancement programme on flexibility (verbal creativity) among adolescents with SLD, Repeated measures of ANOVA has been used. Result indicated both in control and experimental groups across three time points (before, after intervention and three months after the intervention, there was no significant change in their flexibility (verbal creativity) (F (2, 196) = 0.226; P=0.98). Mean scores of flexibility (verbal creativity) dimension in control group were as given before intervention: M= 49.23(SD= 10.11), after intervention: M= 49.18 (SD= 9.96) and after 3 months from completion of intervention: M= 49.15 (SD= 10.22). Similarly, mean scores of flexibility (verbal creativity) dimension in experimental group were as given before intervention: M= 50.76 (SD= 9.95), after intervention: M= 50.89 (SD= 10.07) and after 3 months from completion of intervention: M= 50.84 (SD= 9.79). Though mean scores were not equal in both groups, but the difference was not statistically significant.

Table 8

Originality (Verbal Creativity): Comparison of Scores from Before, After and Post Assessments

	Group	N	Mean	Std. Deviation	F	Sig
Originality before intervention	Control	50	48.30	7.28		
	Experimental	50	51.69	11.98		
Originality after intervention	Control	50	50.66	9.52		
	Experimental	50	49.33	11.021	F (1.88, 183.45) = 5.96	P=0.10
Originality after 3 months from completion of intervention	Control	50	50.66	10.13		
	Experimental	50	49.33	9.85		

Note: Mauchly's test of Sphericity indicated that the assumption of sphericity had been violated, hence Greenhouse-Geisser correction was used.

Repeated measures of ANOVA have been used to compare originality (verbal creativity) between control group and experimental group. Result indicated both in control and experimental groups across three time points (before, after intervention and three months after the intervention, there was no significant change in their originality (verbal creativity) (F (1.88, 183.45) = 5.96; P=0.10). Mean scores of originality (verbal creativity) dimension in control group were as given before intervention: M= 48.3(SD= 7.28), after intervention: M= 50.66 (SD= 9.52) and after 3 months from completion of intervention: M= 50.66 (SD= 10.13). Similarly, mean scores of originality (verbal creativity) dimension in experimental group were as given before intervention: M= 51.69 (SD= 11.98), after intervention: M= 49.33 (SD= 11.02) and after 3 months from completion of intervention: M= 49.33 (SD= 9.85). Though mean scores were not equal in both groups, but the difference was not statistically significant.

Table 9

Originality (Non-Verbal Creativity): Comparison of Scores from Before, After and Post Assessments

	Group	N	Mean	Std. Deviation	F	Sig
Originality before intervention	Control	50	51.89	11.33		
	Experimental	50	48.10	8.13		
Originality after intervention	Control	50	50.95	11.16		
	Experimental	50	49.04	8.71	F (2, 196) = 0.47	P=0.62
Originality after 3 months from completion of intervention	Control	50	51.01	11.37		
	Experimental	50	48.98	8.40		

Note: Sphericity is assumed.

To compare the effect of creativity enhancement programme on originality (non-verbal creativity) among adolescents with SLD, Repeated Measures of ANOVA has been used. Result indicated both in control and experimental groups across three time points (before, after intervention and three months after the intervention, there was no significant change in their non-verbal originality (F (2, 196) = 0.47; P=0.62). Mean scores of originality (non-verbal creativity) dimension in control group were as given before intervention: M= 51.89 (SD= 11.33), after intervention: M= 50.95 (SD= 11.16) and after 3 months from completion of intervention: M= 51.01 (SD= 11.37). Similarly, mean scores of originality (non-verbal creativity) dimension in experimental group were as given before intervention: M= 48.10 (SD= 8.13), after intervention: M= 49.04 (SD= 8.71) and after 3 months from completion of intervention: M= 48.98 (SD= 8.40). Though mean scores were not equal in both groups, but the difference was not statistically significant.

Table 10

Elaboration (Non-Verbal Creativity): Comparison of Scores from Before, After and Post Assessments

	Group	N	Mean	Std. Deviation	F	Sig
Elaboration before intervention	Control	50	50.55	7.67		
	Experimental	50	49.44	11.92		
Elaboration after intervention	Control	50	47.69	9.89	F(1.80, 176.96)= 8.30	P=0.001
	Experimental	50	52.30	9.65		
Elaboration after 3 months from completion of intervention	Control	50	46.60	9.67		
	Experimental	50	53.40	9.26		

Note: Mauchly's test of Sphericity indicated that the assumption of sphericity had been violated, hence Greenhouse-Geisser correction was used

.

Repeated measures of ANOVA have been used to compare elaboration (non-verbal creativity) between control group and experimental group. Result indicated between control and experimental groups across three time points (before, after intervention and three months after the intervention, there was a significant change in their elaboration (non-verbal creativity) (F (1.8, 176.96) = 8.3; P=0.001). Mean scores of elaboration (non-verbal creativity) dimension in control group were as given before intervention: M= 50.55 (SD= 7.67), after intervention: M= 47.69 (SD= 9.89) and after 3 months from completion of intervention: M= 46.60 (SD= 9.67). Similarly, mean scores of elaboration (non-verbal creativity) dimension in experimental group were as given before intervention: M= 49.44 (SD= 11.92), after intervention: M= 52.30 (SD= 9.65) and after 3 months from completion of intervention: M= 53.40 (SD= 9.26). Mean scores were not equal in both groups especially

after the intervention, the difference was statistically significant. Following graph clearly depicts the effect of intervention on non-verbal elaboration.

Estimated Marginal Means of Elaboration (Non-verbal Creativity)

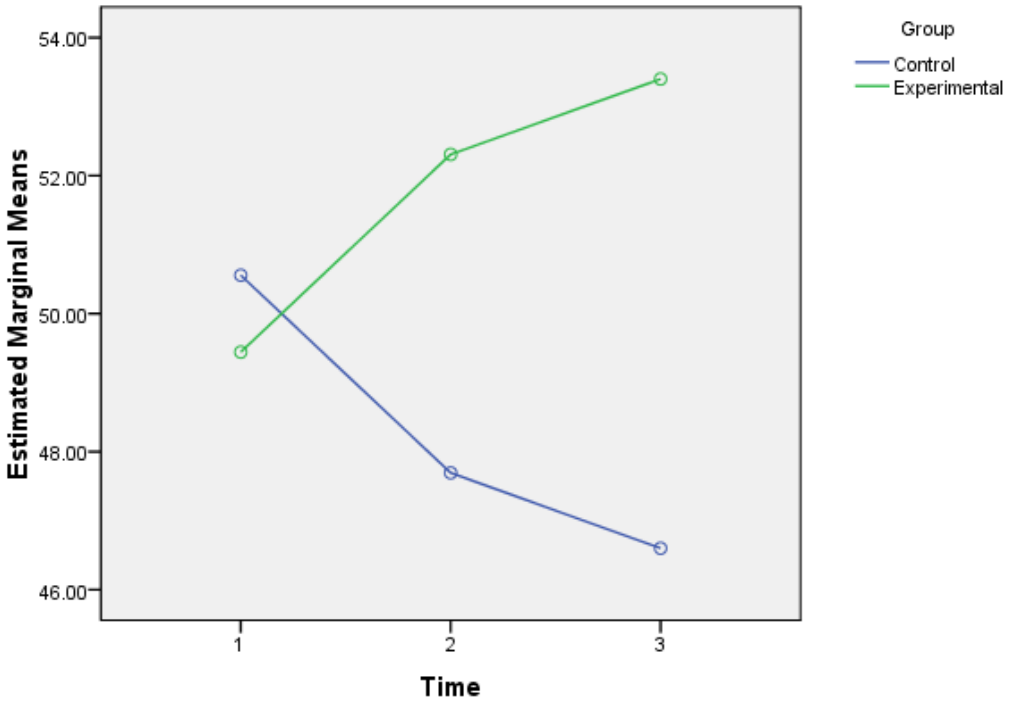

Figure 4. Non-verbal Creativity Elaboration: Comparison of Scores from Before, After and Post Assessments

Table 11

Self-esteem: Comparison of Scores from Before, After and Post Assessments

	Group	N	Mean	Std. Deviation	F	Sig
Self Esteem before intervention	Control	50	26.64	3.39		
	Experimental	50	25.92	2.91		
Self Esteem after intervention	Control	50	27.52	3.47	F (1.83, 179.31) = 7.75	P=0.001
	Experimental	50	29.32	3.74		
Self Esteem after 3 months from completion of intervention	Control	50	26.80	4.53		
	Experimental	50	29.18	3.79		

Note: Mauchly's test of Sphericity indicated that the assumption of sphericity had been violated, hence Greenhouse-Geisser correction was used.

Repeated measures of ANOVA have been used to compare self-esteem between control group and experimental group. Result indicated between control and experimental groups across three time points (before, after intervention and three months after the intervention, there was a significant change in their self-esteem (F (1.83, 179.31) = 7.75; P=0.001). Mean scores of self-esteem in control group were as given before intervention: M= 26.64 (SD= 3.39), after intervention: M= 27.52 (SD= 3.47) and after 3 months from completion of intervention: M= 26.80 (SD= 4.53). Similarly, mean scores of self-esteem in experimental group were as given before intervention: M= 25.92 (SD= 2.91), after intervention: M= 29.32 (SD= 3.74) and after 3 months from completion of intervention: M= 29.18 (SD= 3.79). Mean scores were not equal in both groups especially after the intervention, the difference was statistically significant. Following graph clearly depicts the effect of intervention on self-esteem.

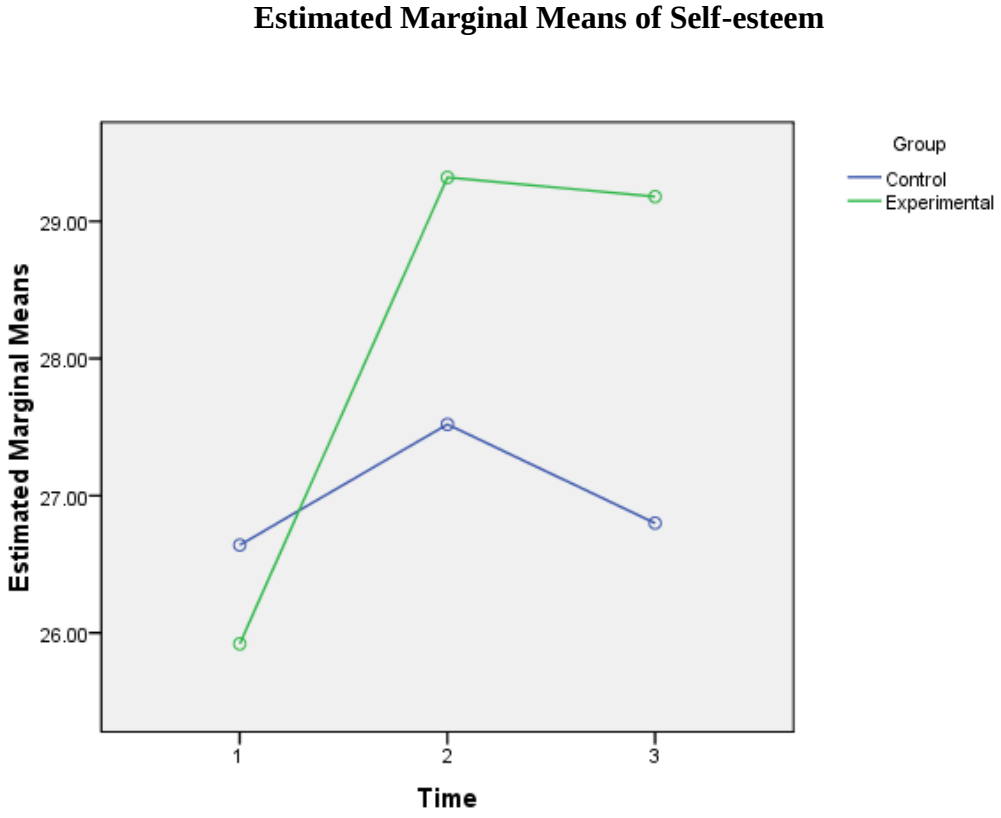

Figure 5. Self-esteem: Comparison of Scores from Before, After and Post Assessments

Table 12

Depression: Comparison of Scores from Before, After and Post Assessments

	Group	N	Mean	Std. Deviation	F	Sig
Depression before intervention	Control	50	13.10	7.50		
	Experimental	50	12.02	8.90		
Depression after intervention	Control	50	12.82	9.10	F (2, 196) = 5.65	P=0.004
	Experimental	50	12.92	9.40		
Depression after 3 months from completion of intervention	Control	50	14.96	9.21		
	Experimental	50	10.48	8.56		

Note: Sphericity is assumed.

Repeated measures of ANOVA have been used to compare depression between control group and experimental group. Result indicated between control and experimental groups across three time points (before, after intervention and three months after the intervention, there was a significant change in their depression (F (2, 196) = 5.65; P=0.004). Mean scores of depression in control group were as given before intervention: M= 13.10 (SD= 7.50), after intervention: M= 12.82 (SD= 9.10) and after 3 months from completion of intervention: M= 14.96 (SD= 9.21). Similarly, mean scores of depression in experimental group were as given before intervention: M= 12.02 (SD= 8.90), after intervention: M= 12.92 (SD= 9.40) and after 3 months from completion of intervention: M= 10.48 (SD= 8.56). Mean scores were not equal in both groups especially after three months of the intervention, the difference was statistically significant. Following graph clearly depicts the effect of intervention on depression.

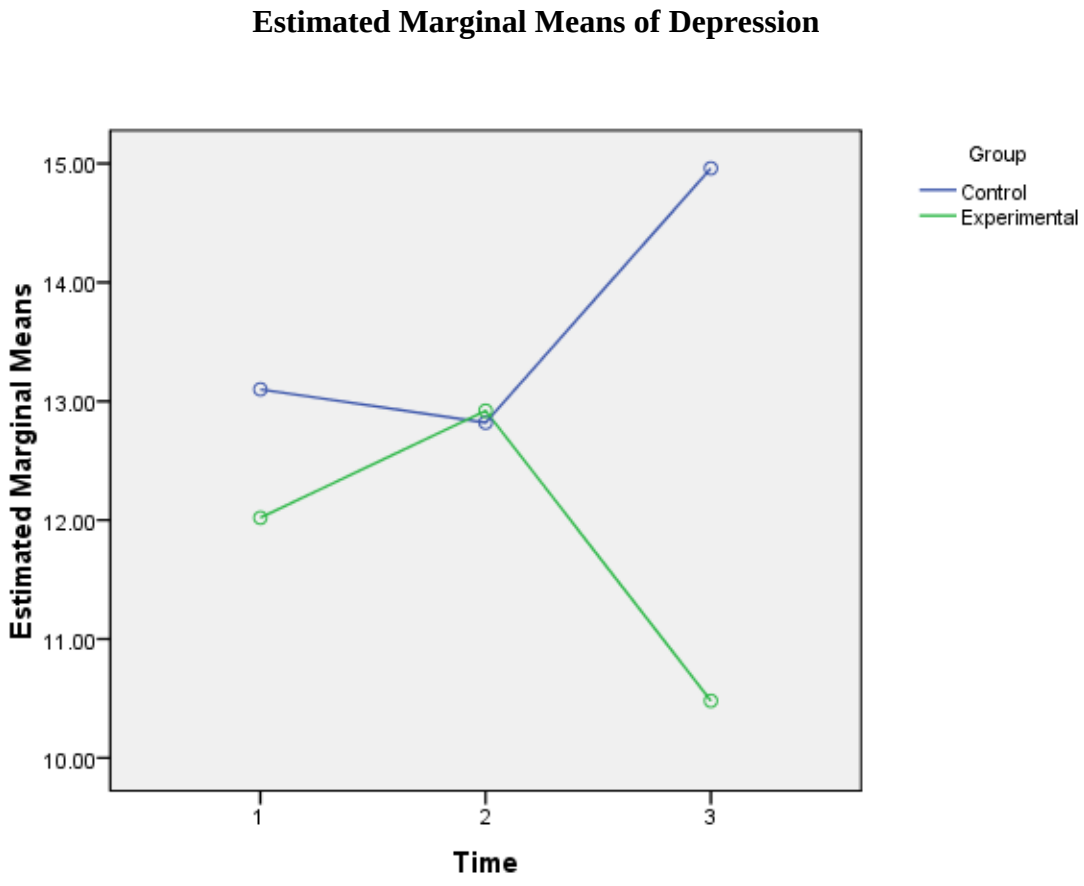

Figure 6. Depression: Comparison of Scores from Before, After and Post Assessments

Table 13

Anxiety: Comparison of Scores from Before, After and Post Assessments

	Group	N	Mean	Std. Deviation	F	Sig
Anxiety before intervention	Control	50	13.40	6.90		
	Experimental	50	12.44	9.02		
Anxiety after intervention	Control	50	11.66	7.92	F(2, 196)= 2.68	P=0.07
	Experimental	50	12.66	9.32		
Anxiety after 3 months from completion of intervention	Control	50	13.92	8.10		
	Experimental	50	12.44	9.06		

Note: Sphericity is assumed.

Repeated measures of ANOVA have been used to compare anxiety between control group and experimental group. Result indicated between control and experimental groups across three time points (before, after intervention and three months after the intervention, there was no significant change in their anxiety (F (2, 196) = 2.98; P=0.07). Mean scores of anxiety in control group were as given before intervention: M= 13.40 (SD= 6.90), after intervention: M= 11.66 (SD= 7.92) and after 3 months from completion of intervention: M= 13.92 (SD= 8.10). Similarly, mean scores of anxiety in experimental group were as given before intervention: M= 12.44 (SD= 9.02), after intervention: M= 12.66 (SD= 9.32) and after 3 months from completion of intervention: M= 12.44 (SD= 9.06). Mean scores were not equal in both groups especially after three months of the intervention; the difference was statistically not significant. Still Following graph clearly depicts the effect of intervention on anxiety.

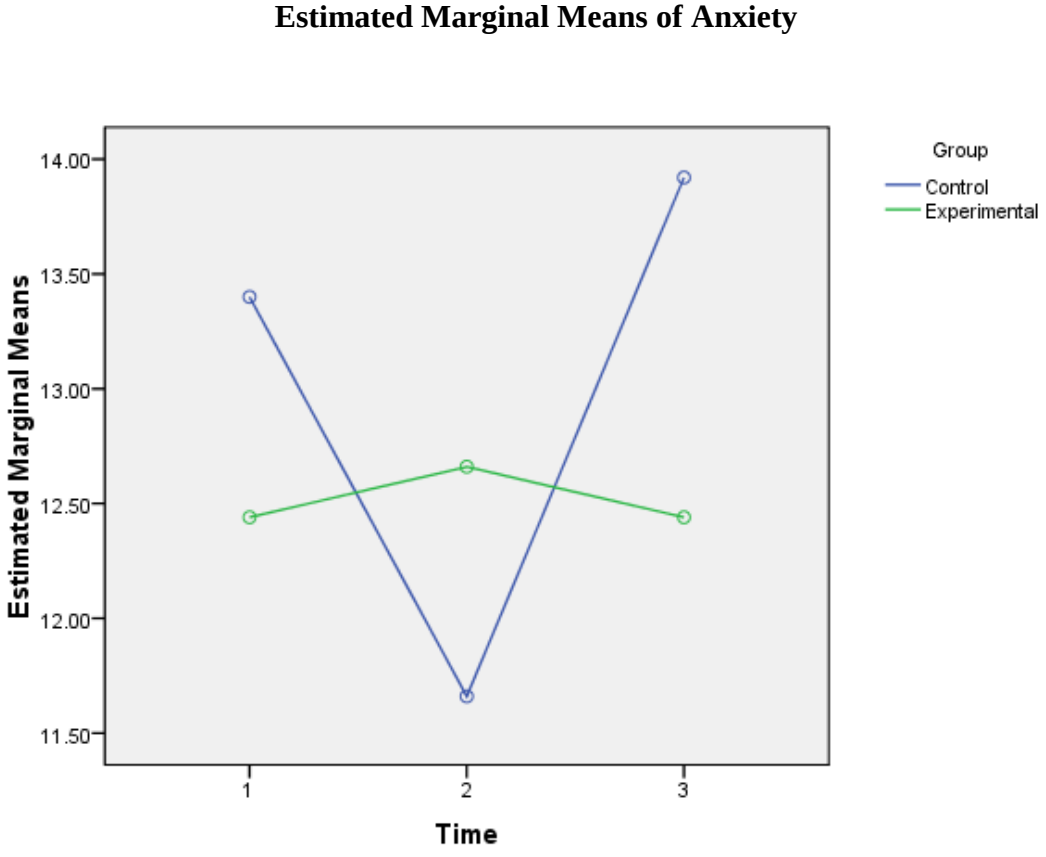

Figure 7. Anxiety: Comparison of Scores from Before, After and Post Assessments

Discussion

Adolescent children with SLD do suffer from low self-esteem, depression and anxiety (Zeleke, 2004; Maag & Reid, 2006; Gallegos, Langley, & Villegas, 2012) Though there are evidence supported remedial techniques are available for these children. Many of them do not receive such psychological supports. In this contest exploring alternative ways to enhance the self-esteem of children are essential to prevent psychological impact of SLD. Many studies have estimated the prevalence of SLD as 10% among school going children (Ramaa, Mugali, & Choudhary, 2000). Large number of children with SLD do not get deserving services due to limited trained psychologists, who are available in India. This indicates the need for empowering teachers and parents through feasible techniques which focus on core skills of this special population. Many theories have conceptualized the self-esteem as a phenomenon which enables adolescence to recognise their potentials which could be used in their adult life to meet the demands of complex life cycle stages. Creativity Enhancement Programmes give an opportunity to children to explore and nurture their talents. There are proven creativity enhancement-techniques, which are available in other countries based on Torrance theory of creativity (Nogueria, 2006; Treffinger, Selby, & Crumel, 2012; Garaigordobil & Berrueco, 2011; Dziedziewic, Gajda, & Karwowski, 2014). He had put forward an idea of exploring and nurturing verbal and non-verbal creativity of school going children for enhancing their self-esteem, life skills and wellbeing. He had also argued creativity Enhancement Programmes are useful to prevent psychological damage which is experienced by children who are living in difficult circumstances.

This study theoretically has been grounded on two theories. One in which as Erik Erikson has pointed out adolescence have to realize their potentials and they need to experiment those talents for developing appropriate self-esteem. In another theoretical framework, in which this study has been grounded is Torrance understanding of creativity.

With the help of teachers and parents, SLD has been identified among 100 children and subsequently they were allotted to experimental and control group. Children who were in experimental group received 12 sessions of structured intervention which were standardized with the help of leading psychologists who contributed significantly in the field of SLD for identifying and managing the distress of children with SLD. These interventions were planned in such a way where children could explore their verbal and nonverbal creativity. In this study the researcher has assessed verbal and non-verbal creativity before, after and three months after the intervention. While comparing three level assessments between experimental and control group found there was a significant change in nonverbal creativity, especially in the dimension of elaboration. Though sessions were structured, limited time has been allotted by the school management for 12 sessions. Sustaining student's motivation in activities which are aimed to enhance nonverbal creativity could be done successfully with the help of planned schedule of rewards. But activities which focus to promote verbal creativity have been found difficult for children with SLD and researcher could not sustain motivation of participants in such activities. Overall creativity enhancement programme could help students in experimental group to enhance their self-esteem and to handle depression. Though statistically the programme was not useful in decreasing anxiety, while comparing mean there was a reduction in anxiety. Partially sustained anxiety might have been caused due to the exam related anxiety which was likely to happen in the month of December and March, in which post and post-post assessments have been carried out.

How this progamme has helped children with SLD to gain more confidence and to handle their depression, it would be interesting to note following few observations for answering the above-mentioned question. This programme has 12 sessions, each session is planned to stimulate creativity, either verbal or non-verbal and/or both dimensions of creativity. Children were convinced in advance that the programme was not to measure their

efficiency and it was presented as an opportunity to explore their core skills without the fear of being observed. They could experience a non-judgmental and non-evaluative space to explore their core talents and showcase it in front of their peer group. Many of them neither received positive reinforcements in most of the class room settings nor had chance to exhibit their skills due to various which include negative parental attitudes and neglect from teachers. In the programme all of them received individualized positive feedbacks and rewards for their performance. Variety of activities helped them excel in at least in few activities using their core skills. Group based three months duration of activities gave them enough time and support to construct a positive self-image in less threatening environment.

Images which would be attached in the appendix of thesis will support the fact that many of children with SLD have extraordinary artistic and design ability which have been collected during the intervention. Hence this programme which has been developed in our country could be used by educationalists and school psychologists to promote overall wellness of children who are victims of unscientific management of SLD at school level.

Children with SLD are academically almost silent in their class rooms. Repeated tests and examinations which are centred to assess academic capabilities never capture other talents of the children. How one can conclude children with SLD are good for nothing. Such bitter experience throughout class hours and rare chance to demonstrate their talents in few events are not sufficient to develop their core skills.

Though parents and teachers are core decision makers in school settings, various syllabuses also have a key role in way of teaching and assessment. Some of the progressive steps have seen in various curriculums. Large number of students in single class and limited number of trained teachers or other remedial staff pose a major challenge to cater the needs of children with SLD.

Adolescents have not only SLD related problems and they also have life cycle stage associated struggles, which may be also addressed in self-esteem enhancement programmes. Current programme have not been prepared with objectives to address such issues. Many CBT based sessions and life skills training programmes address such core conflicts of adolescents and shown better results in supporting them.

Standalone approaches for remediation or building self-esteem are not feasible to implement in Indian school settings considering the number children with SLD. Gap in services have longstanding impact on children who are in their crucial life years. School based and class room based generic activities irrespective of their learning capacity would help the children to achieve their needs in less stigmatized and child friendly environment along with their peer group who do not have SLD.

While implementing the CrEP in school settings, it has been noticed that children with severe anxiety and depression symptoms need more intensive therapeutic support for handling their difficulty in learning and preventing suicide attempts and other delinquent behaviour in them. There is need to develop a more comprehensive screening and healing approach is required complex needs of children with SLD.

Implications

- Creativity module can be used to improve the self-esteem of children with SLD, who have various skills which are unrecognised in schools and home because of their poor academic performance.
- This module can be used to reduce the depression among children with SLD
- Specific interventions are required to stimulate creativity and to sustain the effect.

Recommendations for further Research

- Already developed intervention module which has been used in foreign countries may be adopted for experimental studies.

- Comorbid disorders have to be controlled in future studies during analysis.
- Curriculum based assessment schedule may be developed for children who study different syllabuses.
- Sample size calculation may be done based on this study for estimating the sample size which could give adequate power in estimating the effect of the programme.

Limitations of the study

Few limitations of this study could be kept in mind while adopting this model. This study has been conducted in small sample size which is 50 each in both groups and majority of the children are girls, may not be sufficient to draw the statistically appropriate inferences. Second major limitation is the absence of standardized assessment schedule to pick up SLD among adolescent children in India. NIMHANS Battery could not be used because the current sample belong to the age group of adolescents. Though school managements agreed to support this programme. Many of them were reluctant to provide sufficient time for assessments and implementation of interventions which could have affected the results. The study was done only among state syllabus children with SLD. Many centres who provide remedial and other services for children with SLD were not ready to share their clients for the study. Many of them shared that they do not do any formal assessments rather they follow informal approach in identifying. They also shared an apprehension many of their clients have severe SLD with or without major another comorbidity, which was a reason for not selecting the children from those institutes. In one institute management also pointed out the varied socio-economic background of their children, which might affect the outcome of the study. The severity and type of SLD is not taken into consideration. Motivation and other aspects were not measured in the study.

Conclusions

Creativity Enhancement Programme provides a ray of hope for children with SLD and their parents. This programme would assist teachers to provide individualized creativity stimulation at school settings which is ideal to promote the goal of integrated education for all children irrespective of their limitations. And creativity is a skill which is known as 21st century skill which is essential for all children to archive their dreams. Hence this approach can be used to promote verbal and nonverbal creativity for all children in a given classroom. Such approach would not exclude children with special needs and some of them would excel in certain areas of creativity. The attitude of children without SLD towards children with SLD could be transformed by citing the excellence of children with SLD during the implementation of CrEP programme at school settings. Children with SLD should be given a chance by parents and teachers to explore their creative activities which would help them to nurture their creativity and holistic wellbeing.

Tentative Structure of Dissertation

Chapter 1 Introduction. This chapter would present the definition of SLD, psychological problems of children with SLD and reasons for such problems. The chapter also would present current remedial packages for children with SLD. Similarly, this chapter would establish the benefits of creativity enhancement programme and the need for the study.

Chapter 2 Review of Literature. In this chapter sub-sections would present method of collecting review of literature, prevalence of SLD, impact of SLD, benefits of creativity enhancement programmes and research gap.

Chapter 3 Methodology. This chapter would present the aim, objectives, details of concepts, population and method of sample selection and data collection. Also details of

tools and intervention programme would be presented in the chapter. Similarly, research would present the ethical considerations of the study.

Chapter 4 Results. In this chapter researcher would present baseline details of participants and the findings of Pre-, post-, and post-post assessments. Researcher also would present the findings of tests, which have been carried out to test the study hypotheses.

Chapter 4 Discussion. Current Study findings would be compared with the available literature for corroboration and to explain the findings of the study. In this chapter researcher also would present the implications and limitations of the study.

Chapter 5 Conclusion. In the final chapter researcher would present a brief summary of findings and the recommendations of the study.

References

Agarwal, K.N., Agarwal, D.K., Upadhyay, S.K., & Singh, M. (1999). Learning disability in rural primary school children. *Indian Journal of Medical Research. 94*, 89–95.

Al Zyoudi, M. (2009). Effects of a creativity training program for breadth and organization on the creativity thinking skills of students with learning disability. *Journal of Faculty of Education*, (26).

Alesi, M., Rappo, G., & Pepi, A. (2014). Depression, anxiety at school and self-esteem in children with learning disabilities. *Journal of Psychological Abnormalities*, 1-8.

Al-Yagon, M. (2012). Subtypes of Attachment Security in School-Age Children with Learning Disabilities. *Learning Disability Quarterly, 35*(3), 170-183. Retrieved from http://www.jstor.org/stable/41702368

Al-Yagon, M., & Mikulincer, M. (2004). Patterns of close relationships and socioemotional and academic adjustment among school-age children with learning disabilities. *Learning Disabilities Research and Practice, 19*(1), 12- 19.

Al-Yagon, M., & Mikulincer, M. (2004). Socioemotional and academic adjustment among children with learning disorders: The mediational role of attachment-based factors. *Journal of Special Education, 38*(2), 111-123.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-V.* Washington, DC: American Psychiatric Association.

Antonietti, A. (2000). Enhancing creative analogies in primary school children. North *American Journal of Psychology, 2*, 75-84.

Arthur, A. R. (2003). The emotional lives of people with learning disability. *British Journal of Learning Disabilities, 31*(1), 25-30.

Arun, P., Chavan, B. S., Bhargava, R., Sharma, A., & Kaur, J. (2013). Prevalence of specific developmental disorder of scholastic skill in school students in Chandigarh, India. *The Indian journal of medical research, 138*(1), 89.

Ashraf, F., & Najam, N. (2015). Comorbidity of Anxiety Disorder and Major Depression among Girls with Learning Disabilities. Pakistan Journal of Medical Research, 54(4), 109.

Ashraf, F., & Najam, N. (2015). Comorbidity of anxiety disorder and major depression among girls with learning disabilities. *Pakistan Journal of Medical Research, 54*(4), 109-112.

Baumeister, A. L., Storch, E. A., & Geffken, G. R. (2008). Peer victimization in children with learning disabilities. *Child & Adolescent Social Work Journal, 25*(1), 11-23. doi: http://dx.doi.org/10.1007/s10560-007-0109-6

Beghetto, R. A., & Kaufman, J. C. (2014). Classroom contexts for creativity. *High Ability Studies, 25*(1), 53-69.

Behera, Kartikeswar, & Pradhan, Niladri. (2007). Exploring the Creative Potentialities of Children with Learning Disabilities. *Journal of Educational Research and Extension. 44(4), pp.27-32. Quarterly, 22*(2), 143-156.

Bender, W. N., Rosenkrans, C. B., & Crane, M. K. (1999). Stress, depression, and suicide among students with learning disabilities: Assessing the risk. *Learning Disability Quarterly, 22*(2), 143-156.

Bigozzi, L., Tarchi, C., Pinto, G., & Donfrancesco, R. (2016). Divergent thinking in Italian students with and without reading impairments. *International Journal of Disability, Development and Education, 63*(4), 450-466.

Boling, S. E., Boling, J. L., & Eisenman, R. (1993). Creativity and birth order/sex differences in children. *Education, 114*(2), 224-228.

Byron, K., & Khazanchi, S. (2011). A meta-analytic investigation of the relationship of state and trait anxiety to performance on figural and verbal creative tasks. *Personality and Social Psychology Bulletin, 37*(2), 269. Retrieved from https://search.proquest.com/docview/848921019?accountid=38885.

Byron, K., & Khazanchi, S. (2012). Rewards and creative performance: a meta-analytic test of theoretically derived hypotheses.

Chaneb, B. (2016). Stephanie L. Brooke and Charles E. Myers (Eds.): The Use of the Creative Therapies in Treating Depression. *Journal of child family studies, 25. 700-703.*

Chávez-Eakle, R. A., Eakle, A. J., & Cruz-Fuentes, C. (2012). The Multiple Relations Between Creativity and Personality. *Creativity Research Journal, 24*(1), 76-82.

Choudhary, M. G., Jain, A., Chahar, C. K., & Singhal, A. K. (2012). A case control study on specific learning disorders in school going children in Bikaner city. *The Indian Journal of Paediatrics, 79*(11), 1477-1481.

Claxton, A. F., Pannells, T. C., & Rhoads, P. A. (2005). Developmental Trends in the Creativity of School-Age Children. *Creativity Research Journal, 17*(4), 327-335.

Collins, M. A., & Amabile, T. M. (1999). Motivation and creativity. In R. J. Sternberg (Ed.), *Handbook of Creativity* (pp.297–312). Cambridge, England: Cambridge University Press.

Daniel, S. S., Walsh, A. K., Goldston, D. B., Arnold, E. M., Reboussin, B. A., & Wood, F. B. (2006). Suicidality, school dropout, and reading problems among adolescents. *Journal of learning disabilities, 39*(6), 507-514.

Davis, G., & Rimm, S. (2004). *Education of the gifted and talented (5th.ed).* Needham Heights, MA: Allyn & Bacon.

Durham, Jennifer. (2010). The Effects of an Arts-Based and Integrated Curricular Approach on the Cognitive Processes and Personal Learning Characteristics of Students with Learning Disabilities. Retrieved April 28, 2011from<http: eric.ed.gov/ERIC Web portal / Home. portal? Nfpb = true & ERIC Ext Search _ Descri.

Dziedziewicz, D., & Karwowski, M. (2015). Development of children's creative visual imagination: a theoretical model and enhancement programmes. *Education 3-13, 43*(4), 382-392.

Eisenberger, R., & Rhoades, L. (2001). Incremental effects of reward on creativity. *Journal of personality and social psychology, 81*(4), 728.

Eisenberger, R., & Shanock, L. (2003). Rewards, intrinsic motivation, and creativity: A case study of conceptual and methodological isolation. *Creativity Research Journal, 15,* 121–130.

Emamjomeh, S. M., & Bahrami, M. (2015). Effect of a supportive-educative program in the math class for stress, anxiety, and depression in female students in the third level of junior high school: An action research. *Journal of education and health promotion, 4.*

Ezell, D., & Klein-Ezell, C. E. (2003). Magic works (motivating activities geared-to instilling confidence-wonderful opportunities to raise kid's self-esteem*). Education and Training in Developmental Disabilities,* 441-450.

Fearon, D. D., Copeland, D., & Saxon, T. F. (2013). The relationship between parenting styles and creativity in a sample of Jamaican children. *Creativity research journal, 25(1),* 119-128.

Feldhusen, J. F. (1983). The Purdue creative thinking program. *Creativity research and educational planning,* 41-46.1

Feldhusen, J. F., Treffinger, D. J., & Bahlke, S. (1970). Developing creative thinking: The Purdue Creative Thinking program. *Journal of Creative Behaviour, 4,* 85–90.

Feurer, D. P., & Andrews, J. J. (2009). School-related stress and depression in adolescents with and without learning disabilities: An exploratory study. *Alberta Journal of Educational Research, 55*(1), 92.

Fleith, D. D. S., Renzulli, J. S., & Westberg, K. L. (2002). Effects of a creativity training program on divergent thinking abilities and self-concept in monolingual and bilingual classrooms. *Creativity research journal, 14*(3-4), 373-386.

Gallegos, J., Langley, A., & Villegas, D. (2012). Anxiety, Depression, and Coping Skills Among Mexican School Children: A Comparison of Students with and Without Learning Disabilities. *Learning Disability Quarterly, 35(1),* 54-61.

Garaigordobil, M., & Berrueco, L. (2011). Effects of a play program on creative thinking of preschool children. *The Spanish Journal of Psychology, 14(2),* 608-18.

Goldsmith, R. E., & Matherly, T. A. (1988). Creativity and self-esteem: A multiple operationalization validity study. *The Journal of psychology, 122*(1), 47-56.

Gonçalves, L. L., Voos, M. C., Almeida, M. H. M. D., & Caromano, F. A. (2017). Massage and storytelling reduce aggression and improve academic performance in children attending elementary school. *Occupational Therapy International*, 2017.

Granic, I., Lobel, A., & Engels, R. C. (2014). The benefits of playing video games. *American Psychologist, 69*(1), 66.

Greenham, S. L. (1999). Learning disabilities and psychosocial adjustment: A critical review. *Child Neuropsychology, 5*(3), 171-196.

Gresham, F. M., & MacMillan, D. L. (1997). Social competence and affective characteristics of students with mild disabilities. *Review of Educational Research, 67*(4), 377-415.

Gupta, S. K., & Venkatesan, S. (2014). Reappraisal of research on executive function training in children with learning disabilities. International Journal of Psychology and Psychiatry, 2(1), 7-18.

Heenan, D. (2006). Art as therapy: an effective way of promoting positive mental health? *Disability & Society, 21*(2), 179-191. by statutory service providers.

Hernandez-Halton I., Hodges S., Miller L. & Simpson D. (2000) A psychotherapy service for children, adolescents and adults with learning disability at the Tavistock Clinic, London UK. Br J *Learning Disabilities, 28* (3), 120–4.

Hoff, E. V. (2005). Imaginary Companions, Creativity, and Self-Image in Middle Childhood. *Creativity Research Journal, 17*(2/3), 167-180.

Howard, P. A., Taylor, J. R., & Sutton, L. (2002). The effect of play on the creativity of young children during subsequent activity. *Early Child Development and Care, 172,* 323–328.

Hsiao, H. S., Chang, C. S., Lin, C. Y, & Hu, P. M. (2014). Development of children's creativity and manual skills within digital game-based learning environment. *Journal of Computer Assisted Learning, 30* (4), 377-395.

Hui, A. N., He, M. W., & Ye, S. S. (2015). Arts education and creativity enhancement in young children in Hong Kong. *Educational Psychology, 35(3),* 315-327.

Humphrey, N., & Mullins, P. M. (2002). Self-concept and self-esteem in developmental dyslexia. *Journal of Research in Special Educational Needs, 2*(2).

Jaben, T. H. (1985b). Effects of instruction on elementary-age students' productive thinking. *Psychological Reports, 57,* 900–902.

Jaben, T. H. (1987). Effects of training on learning disabled students' creative written expression. *Psychological reports, 60*(1), 23-26.

Jaben,T.H. (1985a).Effect of instruction for creativity on learning disabled students' drawings. *Perceptual and Motor Skills, 61,* 895–898.

Johnson, B. P (2005). Psychological co-morbidity in children and adolescents with learning disorders. *Journal of Indian Association for Child and Adolescent Mental Health, 7*:55–9.

Kapoula, Z., Ruiz, S., Spector, L., Mocorovi, M., Gaertner, C., Quilici, C., & Vernet, M. (2016). Education Influences Creativity in Dyslexic and Non-Dyslexic Children and Teenagers. *PloS one, 11*(3), 15-42.

Karwowski, M. (2014). Creative mindsets: Measurement, correlates, consequences. *Psychology of Aesthetics, Creativity, and the Arts, 8*(1), 62.

Kattab, N., Al Hadid, M. (2008). Teaching thinking in students with learning. Amman. Jordan.

King, D. A., & Daniel, L. G. (1996). Psychometric integrity of the Self-Esteem Index: A comparison of normative and field study results. *Educational and psychological measurement, 56*(3), 537-550.

Klassen, R. M., & Lynch, S. L. (2007). Self-efficacy from the perspective of adolescents with LD and their specialist teachers. *Journal of learning disabilities, 40*(6), 494-507.

Koçkar, A. I., & Gençöz, T. (2004). Personality, social support, and anxiety among adolescents preparing for university entrance examinations in Turkey. *Current Psychology, 23*(2), 138-146.

Kohli A, Malhotra S, Mohanty M, Khehra N, Kaur M. Specific learning disabilities in children: deficits and neuropsychological profile. *International Journal Rehabilitation Research. 2005; 28:*165–9. [PubMed]

Komarik, E., & Brutenicova, E. (2003). Effect of creativity training on pre-school children. *Studia Psychologica, 45*(1), 37-42.

Kroese, B. S. (1997). 1 Cognitive. behaviour therapy for people with learning disabilities. Cognitive-behaviour therapy for people with learning disabilities, 1.

Lackaye, T. D., & Margalit, M. (2006). Comparisons of achievement, effort, and self-perceptions among students with learning disabilities and their peers from different achievement groups. *Journal of learning disabilities, 39*(5), 432-446.

Lahane, S., Shah, H., Nagarale, V., & Kamath, R. (2013). Comparison of self-esteem and maternal attitude between children with learning disability and unaffected siblings. *The Indian Journal of Pediatrics*, *80*(9), 745-749.

Lloyd, C., & Chandler, L. (1999). Girrebala and the arts in mental health rehabilitation. *British Journal of Therapy and Rehabilitation, 6*(4), 164-170.

Lovibond, P. F., & Lovibond, S. H. (1995). Manual for the Depression Anxiety Stress Scales (2nd ed.), *Psychology Foundation*, Sydney.

Maag, J. W., & Reid, R. (2006). Depression among students with learning disabilities: Assessing the risk. *Journal of Learning Disabilities, 39*(1), 3-10.

Maheshwari, A., & Sangeeta. (2011). Creativity and level of aspiration of learning-disabled and non- disabled children. *International Journal of Education & Allied Sciences, 3*(2), 119-126.

Malin AJ. (1969). Manual of Malin's Intelligence Scale for Indian Children (MISIC), Lucknow: *Indian Psychological Corporation*.

Margalit, M., & Al-Yagon, M. (2002). The loneliness experience of children with learning disabilities. *The social dimensions of learning disabilities*, 53-75.

Martínez, R. S., & Semrud - Clikeman, M. (2004). Emotional adjustment and school functioning of young adolescents with multiple versus single learning disabilities. *Journal of learning disabilities, 37*(5), 411-420.

McNulty, M. A. (2003). Dyslexia and the life course. *Journal of learning disabilities, 36*(4), 363-381.

Meaor, K. S. (1994). The effects of synectics training on gifted and non-gifted kindergarten students. *Journal for the Education of the Gifted, 18,* 55–73.

Mehdi, B. (1973). Manual Verbal Test of Creative Thinking. *National Psychological Corporation, Agra*.

Melfsen, S., Walitza, S., & Warnke, A. (2006). The extent of social anxiety in combination with mental disorders. *European Child & Adolescent Psychiatry, 15*(2), 111-117.

Melhem, M., & Isa, M. (2013). Enhancing critical thinking skills among students with learning difficulties. *International Journal of Academic Research in Progressive Education and Development, 2*(4), 151-169.

Mishna, F. (2003). Learning disabilities and bullying: Double jeopardy. *Journal of Learning Disabilities, 36*(4), 336-47.

Mogasale, V. V., Patil, V. D., Patil, N. M., & Mogasale, V. (2012). Prevalence of specific learning disabilities among primary school children in a South Indian city. *The Indian Journal of Paediatrics, 79*(3), 342-347.

Monahan, M. (2000). Effects of teaching organizational strategies. Unpublished dissertation. Illinois University.

Morais, M. d. F., Jesus, S. N. d., Azevedo, I., Araújo, A. M., & Viseu, J. (2015). Intervention program on adolescent's creativity representations and academic motivation. Paideia, 25(62), 0289-0297. doi: http://dx.doi.org/10.1590/1982-43272562201502.

Mugali J, Patil S, Gosavi K, Pattanshetti N, Kovvuri S, Deepthi PT (2017). Study of Specific Learning Disorder in Children with Poor Academic Performers, International Journal of Indian Psychology, *4 (2)*, 87.

Mugnaini, D., Lassi, S., La Malfa, G., & Albertini, G. (2009). Internalizing correlates of dyslexia. *World Journal of Pediatrics, 5*(4), 255-264.

Mukerjee, S., Uma, H., Kapur, M., & Subbakrishna, D. K. (1995). Anxiety and self-esteem in children with Specific Disorders of Scholastic Skills. NIMHANS Journal, *13*. 117-121.

Murray, C., & Greenberg, M. T. (2006). Examining the importance of social relationships and social contexts in the lives of children with high-incidence disabilities. *The journal of special education, 39*(4), 220-233.

Myers, J. E., Willise, J. T., & Villalba, J. A. (2011). Promoting Self-Esteem in Adolescents: The Influence of Wellness Factors. *Journal of Counseling & Development, 89*(1), 28-36.

Nakra, O. (1996). Children and learning difficulties. Allied Publishers.

Nogueira, S. M. (2006). MORCEGOS: A Portuguese Enrichment Program of Creativity Pilot Study With Gifted Students and Students With Learning Difficulties. *Creativity Research Journal, 18*(1). 45-54.

O'Connor H. (2001) Will we grow out of it? A psychotherapy group for people with learning disabilities. *Psychodynamic Counselling, 7* (3): 297–314.

of treatment outcomes. *Review of Educational Research, 68*, 277–321.

Okebukola, P. A. (1986). Relationships among anxiety, belief system, and creativity. *The Journal of social psychology, 126*(6), 815-816.170. 364.

Okebukola. (2001) Anxiety and creativity was found to be negatively correlated. Those who had high anxiety performed badly.

Olenchak, F. R. (1995). Effects of enrichment on gifted/ learning disabled students. *Journal for the Education of the Gifted, 18,* 385–399.

Ott, M., & Pozzi, F. (2012). Digital games as creativity enablers for children. *Behaviour & Information Technology, 31*(10), 1011-1019.

Pandy, R. I. (2012). Learning Disabilities and Self-Esteem.

Panicker, A. S., & Chelliah, A. (2016). Resilience and stress in children and adolescents with specific learning disability. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, *25*(1), 17.

Parnes, S.J., & Noller, R.B. (1972). Applied creativity: The creative studies project: Part results of the two-year program. *Journal of Creative Behaviour, 6,* 164–186.

Peleg, O. (2009). Test anxiety, academic achievement, and self-esteem among Arab adolescents with and without learning disabilities. *Learning Disability Quarterly, 32*(1), 11-20.

Prieto, M. D., López, O., Bermejo, M. R., Renzulli, J., & Castejón, J. L. (2002). Evaluación de un programa de desarrollo de la creatividad [Assessment of a program to develop creativity*]*. *Psicothema, 1,* 410-414. problem solving. Athens, GA: University of Georgia, Department of Educational Psychology.

Ramaa, S. (2000). Two decades of research on learning disabilities in India. *Dyslexia, 6*(4), 268-283.

Ranjana, & Moudgil, N. (2017). Parenting styles and self-esteem as predictors of aggression. *Indian Journal of Health and Wellbeing, 8*(2), 168-172. Retrieved from https://14.139.159.99:2203/docview/1890810428?accountid=50681

Ranjana., Moudgil, N. (2017). Parenting styles and self-esteem as predictors of aggression. *Indian Journal of Health and Wellbeing, 8*(2,) 168.

Raviv, D., & Stone, C. A. (1991). Individual differences in the self-image of adolescents with learning disabilities: The roles of severity, time of diagnosis, and parental perceptions. *Journal of Learning Disabilities, 24*(10), 602-611.

Reid, G. (2011). *Dyslexia: a complete guide for parents and those who help them*. John Wiley & Sons.

Renzulli, J. S. (1996). Schools for Talent Development: A Practical Plan for Total School Improvement. *School Administrator, 53*(1), 20-22.

Renzulli, J. S. (2003). Conception of giftedness and its relationship to the development of social capital. *Handbook of gifted education, 3,* 75-87.

Riddick, B., Sterling, C., Farmer, M., & Morgan, S. (1999). Self-esteem and anxiety in the educational histories of adult dyslexic students. Dyslexia, 5*(4),* 227-248.

Rigby, L., & Waite, S. (2006). Group therapy for self-esteem, using creative approaches and metaphor as clinical tools. *Behavioural and Cognitive Psychotherapy, 35*(3), 361-

Root-Bernstein, R. S. (2001). Music, creativity and scientific thinking. *Leonardo, 34*(1), 63-68.

Rosenberg, M. (1965). Rosenberg self-esteem scale (RSE). *Acceptance and commitment therapy. Measures package, 61*, 52.

Runco, M. A. (2003). Education for Creative Potential. *Scandinavian Journal of Educational Research, 47*(3), 317.

Russ, S. W. (2003). Play and creativity: Developmental issues. *Scandinavian journal of educational research, 47*(3), 291-303.

Russoniello, C. V., O'Brien, K., & Parks, J. M. (2009). The effectiveness of casual video games in improving mood and decreasing stress. *Journal of Cyber Therapy and Rehabilitation, 2*(1), 53-66.

Saxon, J. A., Treffinger, D. J., Young, G. C., & Wittig, C. V. (2003). Camp invention®: A creative, inquiry-based summer enrichment program for elementary students. *The Journal of Creative Behavior, 37*(1), 64-74.

Schulte-Körne, G. (2010). The prevention, diagnosis, and treatment of dyslexia. *Deutsches Ärzteblatt International, 107*(41), 718.

Scott, G., Leritz, L. E., & Mumford, M. D. (2004). The effectiveness of creativity training: A quantitative review. *Creativity Research Journal, 16,* 361-388.

Sikabofori, T., & Anupama, I. (2012). Depressive disorders in people with intellectual disabilities. in Raghavan, R. *Anxiety and Depression in People with Intellectual Disabilities: Advances in interventions*. Brighton: Pavilion Publishing and Media Ltd.

Silvia, P. J. (2015). Intelligence and creativity are pretty similar after all. *Educational Psychology Review, 27*(4), 599-606.

Silvia, P. J., & Kimbrel, N. A. (2010). A dimensional analysis of creativity and mental illness: Do anxiety and depression symptoms predict creative cognition, creative accomplishments, and creative self-concepts? *Psychology of aesthetics, creativity, and the arts, 4*(1), 2.

Singh, S., Sawani, V., Deokate, M., Panchal, S., Subramanyam, A. A., Shah, H. R., & Kamath, R. M. (2017). Specific learning disability: A 5-year study from India. *International Journal of Contemporary Pediatrics, 4*, 863-8.

Sinha, U. K. (2012). Specific Learning Disability Screening Questionnaire (SLD-SQ), *Psychomatrix*, New Delhi.

Smogorzewska, J. (2012). Storyline and associations pyramid as methods of creativity enhancement: Comparison of effectiveness in 5-year-old children. *Thinking Skills and Creativity*, *7*(1), 28-37.

Snyder, B. A. (1997). Expressive art therapy techniques: Healing the soul through creativity. *The Journal of Humanistic Counseling, 36*(2), 74-82.

Sternberg, R. J., Grigorenko, E. L., & Singer, J. L. (2004). *Creativity: From potential to realization*. American Psychological Association.

Swanson, H. L., & Hoskyn, M. (1998). Experimental intervention research on students with learning disabilities: A meta-analysis of treatment outcomes. *Review of Educational Research, 68*(3), 277-321.

Tabrizi, E. A., & Yaacob, S. N. (2011). Relationship between creative thinking and anxiety among adolescent boys and girls in Tehran, Iran. *International Journal of Humanities and Social Science, 1*(19), 60-66.

Tafti, M. A., Hameedy, M. A., & Baghal, N. M. (2009). Dyslexia, a deficit or a difference: Comparing the creativity and memory skills of dyslexic and non-dyslexic students in Iran. *Social Behaviour and Personality: an international journal, 37*(8), 1009-1016.

Teglasi, H., Cohn, A., & Meshbesher, N. (2004). Temperament and learning disability. *Learning Disability Quarterly, 27*(1), 9-20.

Tettamanzi, M., Sarotti, R., & Frontino, S. (2009). The talent factory: Creative expression workshops to develop divergent thinking. *Psicologia dell'educazione, 3*, 101-122.

Thakkar, A., Karande, S., Bala, N., Sant, H., Gogtay, N., & Sholapurwala, R. (2016). Is anxiety more common in school students with newly diagnosed specific learning disabilities? A cross-sectional questionnaire-based study in Mumbai, Maharashtra,

India. *Journal of Postgraduate Medicine, 62*(1) doi:http://dx.doi.org/10.4103/0022-3859.167663

Torrance, E., Torrance, L., Williams, S., & Horng, R. (1978). *Handbook for training future.*

Treffinger DJ, Selby EC, Crumel JH. (2012). Evaluation of the Future Problem-Solving Program International (FPSPI). *International Journal of Creativity and Problem Solving,22*(2), 45-61.

Treffinger,D.J. (1995).Creative problem solving: Overview and educational implications. *Educational Psychology Review, 7,* 191–205.

Valas, H. (1999). Students with learning disabilities and low-achieving students: Peer acceptance, loneliness, self-esteem, and depression. *Social Psychology of Education, 3*(3), 173-192.

Wiener, J. (2004). Do peer relationships foster behavioural adjustment in children with learning disabilities*? Learning Disability Quarterly, 27*(1), 21-30.

Wilson, A. M., Deri Armstrong, C., Furrie, A., & Walcot, E. (2009). The mental health of Canadians with self-reported learning disabilities. *Journal of Learning Disabilities, 42*(1), 24-40.

Winebrenner, S. (2003). Teaching strategies for twice-exceptional students. *Intervention in School and Clinic, 38,* 131-138.

Zachopoulou, E., Trevlas, E., & Konstadinidou, E. (2006). The design and implementation of a physical education program to promote children's creativity in the early years. *International Journal of Early Years Education, 14*(3), 279-294.

Zeleke, S. (2004). Self-concept of students with learning disabilities and their normally achieving peers: A review. *European Journal of Special Needs Education, 19,* 145.

Publication

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Paper Presentations

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Kuriyan, N. M., & James, J. K. (2018). Influence of Temperament on Play among Preadolescent Children. At Second International conference on play titled Play and Human Development, Organised by Headstreams at St. Joseph's college, Bengaluru, held on 2 and 3 March 2018.

Kuriyan, N. M., & Reddy, J. (2019). Media Reports on Dyslexia among Celebrities: How does it help Adolescent Children with Learning Disability? At Second National Conference on Mental Health Education in NIMHANS, Bengaluru, held on 23 February 2018.